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THE GENERAL PLAN of COLUSA COUNTY

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COUNTY-CITY GENERAL PLAN PROJECT



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TITLE: The General Plan of Colusa County, California

AUTHOR: James M. Campbell, Project Planning Consultant, and
Walter B. Grimes Associates, Civil Engineers.

SUBJECT: General Plan, County of Colusa
Elements: Land Use, Circulation, Recreation, Housing,
Public Services and Facilities.

DATE: January, 1970.

LOCAL PLANNING AGENCY: California Council on Intergovernmental Relations,
for,
Colusa County Planning Commission.

SOURCE OF COPIES: Clearing House for Federal Scientific and Technical
Information, Springfield Va. 22151.
County of Colusa, Court House, Colusa, Ca. 95932.

For Reference: HUD Regional Office Library, Region VI,
San Francisco, Ca. 94102.

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State Depository Library, Environmental
Design Library, University of California,
Berkeley, Ca. 94720.

Planning School Libraries, Depository
Libraries.

HUD PROJECT NO: Ca P/315

SERIES NO: n. a.

NO. OF PAGES: 104.

ABSTRACT: See following page.

ABSTRACT - The General Plan of the County of Colusa, California

During recent years Colusa County has been active in providing zoning protection and processing subdivision maps, and has developed and adopted an Area General Plan for a portion of the County in cooperation with the City of Colusa.

However, the plan contained herein is the first comprehensive County-wide General Plan undertaken to meet the minimum requirements of the State Planning and Zoning Law. The plan includes Land Use, Circulation, Recreation, Housing and Public Services and Facilities elements.

An Area planning agency, the Cities and County of Colusa Area Planning Commission, was created to coordinate and represent the interests of City, County and other interested agencies in the plan development and adoption processes.

The plan gives particular attention to the conservation and protection of natural features and resources in timber, minerals, recreation potentials, water, and agricultural soils. It identifies and proposes the reasonable protection of planned or possible future water project sites, and incorporates long-range plans of Federal and State agencies.

Plans for water and sewer systems, and for solid waste disposal, are projected to 1990 for the incorporated Cities of Colusa and Williams and a number of unincorporated communities.

A desirable uniformity of General Plan terminology and standards, and of zoning and subdivision ordinance provisions, resulted from the cooperative and coordinated planning process.

THE GENERAL PLAN REPORT, COUNTY OF COLUSA

ELEMENTS of the GENERAL PLAN:

LAND USE, CIRCULATION, RECREATION, HOUSING,

PUBLIC SERVICES and FACILITIES*

APPROVED BY: Cities and County of Colusa Area Planning
Commission, August 12, 1969.
October 28, 1969.*

Colusa County Planning Commission,
August 12, 1969.
October 28, 1969.*

City of Williams Planning Commission,
August 12, 1969.
October 28, 1969.*

Williams City Council,
September 15, 1969.
November 3, 1969.*

City of Colusa Planning Commission,
August 27, 1969.

Colusa City Council,
September 8, 1969.

ADOPTED BY: Board of Supervisors,
County of Colusa, September 16, 1969.
December 23, 1969.*

PREPARED BY: James M. Campbell, Planning Consultant
Walter B. Grimes and Associates
Consulting Engineers

County planning Colusa co.

The preparation of this General Plan project was financed in part through an Urban Planning Assistance grant from the Department of Housing and Urban Development under the provisions of Section 701 of the Housing Act of 1954, as amended.

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December, 1969

The Honorable Board of Supervisors
County of Colusa

Gentlemen:

We are pleased to transmit herewith the Colusa County General Plan, which includes the elements of Land Use, Circulation, Recreation, Housing and Public Services and Facilities.

The General Plan project was undertaken, at the direction of your Board, by the County Planning Commission and its planning and engineering consultants, and was accomplished with the active cooperation and assistance of many agencies, officials and individuals.

Coordination of planning activities of the County, Cities of Colusa and Williams, and various communities and districts was provided through the Cities and County of Colusa Area Planning Commission, and Federal and State agencies contributed substantially to the comprehensive features of the General Plan.

The interest in the plan expressed during its preparation and the approval given during public hearings indicates that this first General Plan for Colusa County will fulfill its intended beneficial purposes.

Respectfully submitted,

James M. Campbell, Project Planner

Thomas E. Landon, Project Engineer

INTRODUCTION

During past years Colusa County has experienced a slow and relatively steady rate of development and population increase, and has enjoyed a quiet and pleasant way of life based on an agricultural economy.

Growth in the Cities and suburban communities was, in general, orderly. The need for planning and land use regulations was recognized first in the form of zoning and subdivision ordinances, and in 1962 the City of Colusa adopted a General Plan.

Several years later the Colusa Area General Plan was prepared by a City-County Area Planning Commission, precise zoning was adopted for that area, and general protective zoning was applied to the balance of the County.

In 1967 there was concern developing as to the impact upon the County of early construction of Interstate Freeway Route 5, the Tehama-Colusa Canal, the possible vast Rancheria Reservoir, the prospect of large residential land developments and other projects of major proportions. There was also recognition that comprehensive planning was a prerequisite to qualifying for various assistance programs related to recreation and necessary public facilities projects.

For the above reasons a General Plan project was undertaken by Colusa County and the City of Williams, and an Area Planning Commission was created to ensure coordination of plans and the planning interests of all jurisdictions concerned.

The results of that project, in the form of the Colusa County General Plan, are set forth in this report.

I. GENERAL DESCRIPTION, COUNTY PLAN AREA

A. LOCATION

Colusa County is located in the westerly portion of the Sacramento Valley of California about fifty miles northwest of Sacramento, the State Capitol.

B. TOPOGRAPHY

The easterly half of the County is level or gently rolling valley lands which blend into rough foothills to the west. The western boundary lies along high ridges of the Coast Range Mountains. Elevations range from 30 feet along the Sacramento River to nearly 7,000 feet in the western mountains. Drainage is easterly from the high country to the river.

C. CLIMATE

The climate is generally pleasant and is favorable for agriculture, with warm, dry summers, rainy winters and a long growing season. Light snows fall occasionally on the high mountain ranges, and severe frosts are rare.

Average annual rainfall is about 16 inches.

Average temperatures are: minimum, 47.8 degrees.

mean, 60.9 degrees.

maximum, 74.1 degrees.

Average length of growing season is 272 days.

D. LAND RESOURCES

Colusa County has a total land area of 738,000 acres.
Of this total, 15.1% is in Federal ownership: 111,770 acres.

Commercial forest land occupies an area of: 27,000 acres.

Of this, the publicly owned area is: 26,000 acres.

and the privately owned area totals: 1,000 acres.

The balance of the County is classified,

Cropland: 289,000 acres.

Grassland: 204,000 acres.

Urban, industrial, etc.: 71,000 acres.

Desert, marsh, barren: 72,000 acres.

E. POPULATION

Population in Colusa County has increased at a relatively slow rate during the past 50 years, with the rural areas remaining at a constant level and the increase occurring within the Cities.

Population census and estimate figures are as follows

	<u>1920</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1966</u>
County	9,290	10,258	9,788	11,651	12,075	12,700
Colusa			2,285	3,031	3,518	3,825
Williams			814	1,134	1,370	1,710

F. EMPLOYMENT

Estimates of employment in the year 1966, as prepared by the State Chamber of Commerce, are as follows:

Persons employed in agriculture: 2,569

Total employment in the County: 6,433

Census figures for 1960 showed: 1,567 in agriculture.

4,563 total employed.

The above figures indicate that from 33% to 40% of the County labor force is employed in agriculture.

G. INCOME

For the year 1967 the total personal income reported by residents of Colusa County amounted to \$50,425,000.

Taxable retail sales for the year were \$22,927,000.

Median family income in 1960 was \$5,604.00.

Total value of all agricultural products in the year 1959 was \$28,243,406. In 1968 the figure was \$59,666,810.

II. PLAN DEVELOPMENT POLICIES

A General Plan is intended to serve the people, present and future, who occupy the plan coverage area. It is designed to provide for them a comprehensive, long-term general guide for the best possible future growth and development of the County and for major improvements and service facilities.

To ensure that the plan proposals would reflect human values and practical needs in a manner capable of accomplishment, an outline of plan development policies was established, as follows:

1. That the Plan will be developed with careful consideration of such basic factors as geology, topography, soil capabilities, natural resources in water, minerals, timber and natural vegetation, climate, geographical location and other such controlling natural features.

2. That measures for the properly balanced conservation and utilization of natural resources be provided.

3. That strong recognition be given to established community characteristics and past efforts to build and progress-

sively improve the County and its communities.

4. That existing patterns of land use and zoning, circulation systems, and public service facilities be preserved and protected except in cases where corrections or improvements are necessary to promote public health, safety and convenience.

5. That Plan proposals, based on the above practical considerations, provide for full utilization of area potentials to accomplish progressive improvements which will reflect the best possible future for the area and its people.

III. PLAN OBJECTIVES AND PRINCIPLES

A. INTRODUCTION

If the General Plan is to serve as an effective guide for the accomplishment of desired objectives in the future, it is imperative that those desired objectives and the basic principles involved be clearly defined.

To be truly effective, the plan must be developed with careful consideration of the basic natural features, resources, limitations and potentials of the planning area. Physical developments, human resources and the public health, safety and general welfare dictate in large measure the desires for the future.

Without the force of law to impose its proposals by regulation, the plan must be reasonable and practical to be effective. It is proposed to be a flexible guide, to be implemented by specific plans in the form of zoning and detailed plans for parks, airports, water and sewer systems, etc.

Periodic review and revision of plan elements is anticipated to ensure its continuing validity and usefulness.

B. OBJECTIVES and PRINCIPLES

Objectives of the plan are to assist in providing for the County the best possible future through carefully planned development based upon established principles, as follows:

1. To encourage and assist in the maximum reasonable utilization of natural resources in soils, minerals, timber, grazing lands, water and natural scenic and recreational features through balanced programs of conservation and development.

2. To provide basic safeguards for the retention and expansion of intensive and general agricultural land uses through proper land classification, zoning and possible use of provisions of the Agricultural Land Conservation Act.

3. To recognize, encourage and protect proposed water development projects which will provide benefits to agriculture and recreation, and for flood protection and other public purposes.

4. To recognize the established characters of existing communities and their residential, commercial and industrial developments, to protect these features and provide for their orderly and economic expansion.

5. To encourage new housing at appropriate cost levels, and commercial and compatible industrial development which will provide employment, and will broaden and stabilize the economic base of the County.

6. To anticipate needs for basic public services and facilities such as circulation, recreation, water supply and sewerage, airports, waste disposal, etc., and to provide for site acquisition and development in accordance with need and financing programs.

7. To provide detailed studies and data on a County-wide and community basis which is necessary for specific planning to effectuate the plan through precise zoning and other regulatory measures, to meet criteria for assistance in the financing of public works projects, and to provide information to indicate future planning project needs.

IV. STANDARDS for the GENERAL PLAN

A. LAND USE ELEMENT, AREA CLASSIFICATIONS

The Land Use Element of the General Plan is the key element which sets forth the pattern of basic uses of land and thereby establishes the requirements for transportation, recreation, schools, public buildings and other services and facilities, which are provided for in supplementary elements of the Plan.

In addition, this element provides the guide for the progressive application of zoning, which is the Precise Plan instrument for the accomplishment of the Land Use Plan.

Basic classifications used in the development of the Land Use Element are as follows:

1. Conservation Areas. Extensive areas of Colusa County are included in this group of classifications, covering

the more remote forested mountain areas in which forestry, recreation, grazing and mining will be primary activities, and in which good conservation practices are imperative. Conservation classifications are as follows:

CON-M a. CONSERVATION, MULTIPLE USE: Applied to mixed ownership of lands, primarily National Forest, which have essential characteristics for timber production, together with features favorable for light agriculture, grazing, recreation and mining as secondary compatible uses.

CON-WR b. CONSERVATION, WATERSHED RECREATION: Applied to rough mountainous areas where non-intensive recreational, grazing, forestry and mining uses may be expected, where access and services are minimal, where residential development (except seasonal) is discouraged, and where good conservation practices to prevent wildfire and erosion are essential.

CON-R c. CONSERVATION, RECREATION: Applied to extensive areas in public or mixed ownerships in which recreation is, or is intended to be the primary land use and in which conservation of recreational features is essential to the public interest. Compatible related uses are forestry, grazing and mining.

CON-WP d. CONSERVATION, WATER PROJECT: Applied to sites of proposed water development projects to serve notice of probable use for such purposes, and to discourage incompatible uses. Acceptable interim uses are agricul-

ture, grazing and passive recreation, but not including subdivisions or major improvements unrelated to the water project.

CON-FP e. CONSERVATION, FLOODPLAIN: Applied to areas which are in floodways, or are subject to frequent or periodic inundation by flood waters, and where agricultural and controlled recreational uses may be desirable, permanent structures must not impede normal water flow, and residential uses should be prohibited unless properly floodproofed per floodplain standards.

2. Agricultural Areas. Valley and foothill areas which have excellent to fair quality soils, or which are most suited to seasonal grazing use, are given agricultural land classifications to provide recognition of their use characteristics and guidance for protective zoning. Several of these classifications are in the "Conservation" group in recognition of the need to conserve agricultural soils and protect agricultural land uses.

CON-UG a. CONSERVATION, UPLAND GRAZING: Applied to upland valley and foothill areas in which grazing and related light agriculture are primary uses, mining and compatible non-intensive recreation are secondary uses, and conservation measures are necessary for the protection and preservation of such uses.

CON-AG b. CONSERVATION, AGRICULTURAL-GENERAL: Applied to lower valley and foothill areas where agriculture, in varying degrees of intensity, is a primary use. This is a

classification for lands which in general, should be protected for agricultural purposes.

CON-AI c. CONSERVATION, AGRICULTURAL-INTENSIVE: Applied to areas of prime agricultural soils or other characteristics to support intensive agricultural crop production, which areas are proposed to be protected by zoning regulations to encourage continued agricultural use and prevent the intrusion of incompatible uses.

3. Agricultural Preserves. The "Conservation" and "Agricultural" land classification areas described above were delineated upon the Land Use element General Plan map with consideration of soil types, topography, present and proposed future uses of land and other such factors related to continuing agricultural uses. Various land ownerships within the above classification areas are suitable for designation as "Agricultural Preserves", and are proposed to be designated as such upon property owners request through the zoning process.

Special zoning provisions have been prepared for this purpose, and have been carefully designed to conform to standards of State law pertaining to agricultural land assessment.

4. Urbanizing, Urban and Public Service Areas

A-T a. AGRICULTURAL, TRANSITION: Applied to agricultural areas in close proximity to urban or urbanizing centers where parcel lot sizes and land uses vary and where a transition from agricultural to other uses is in process

or appears imminent. Agricultural preserves are proposed in feasible portions of such areas where compatible transitions are possible and controlled by zoning.

R-S b. *RURAL SERVICE ENTER: Applied to small urban communities which provide urban services to surrounding areas, and which are planned in detail for water and sewer systems plan purposes.

C-P c. *COMMUNITY PLANNING AREA: Applied to City and urban community planning areas which are covered by previously adopted General Plans or are planned in detail for water and sewer systems plan purposes.

P-S d. PUBLIC SERVICE FACILITY: Applied to sizeable land areas which are, or are planned to be used for major public service facilities such as airports, waste disposal sites, etc.

*Additional classifications for residential, commercial, industrial and other urban use areas are contained in the more detailed plans for Rural Service Centers and Community Planning Areas.

SUMMARY, LAND USE ELEMENT: CLASSIFICATIONS, POPULATION DENSITY, BUILDING INTENSITY

Classification	Land Use	*Families per Acre
1. CONSERVATION, GENERAL		
a. CON-M, Multiple Use	Managed multiple uses on National Forest and B.L.M. lands; forestry, grazing, mining, recreation resorts and group facilities on public and private lands.	1 per 20 acres.
	Summer home tracts under zoning controls and subject to development of water and sanitation facilities.	1 per 1 acre.
b. CON-WR, Watershed, Rec.	Watershed protective measures, grazing, mining, hunting clubs, non-intensive recreation, seasonal use subdivisions under zoning controls.	1 per 20 acres.
c. CON-R, Recreation	Public recreation facilities on public lands, grazing and other light agricultural uses.	1 per 20 acres.
	Related private commercial service uses and private homesites, with necessary facilities, under zoning controls.	1 per 1 acre.
d. CON-WP, Water Project	Agriculture, forestry, grazing, mining. No subdivisions or other intensive developments.	1 per 100 acres.
e. CON-FP, Floodplain	Agricultural uses, farm buildings subject to floodproofing, recreational uses subject to zoning controls.	1 per 40 acres.

Classification	Land Use	*Families per Acre
2. CONSERVATION, AGRICULTURAL:		
a. CON-UG, Upland grazing	Grazing and light agriculture, mining, compatible non-intensive recreation. No residential subdivisions except in special rezoning cases.	1 per 100 acres.
b. CON-AG, Agric., General	Diversified agricultural uses and storage and processing operations, mining, parks and compatible non-intensive recreation. Commercial recreation facilities and resorts in special rezoning cases.	1 per 40 acres.
c. CON-AI, Agri., Intensive	Intensive agricultural, and other uses as in AG.	1 per 20 acres.
3. OTHER:		
a. A-T, Agric., Transition	General agricultural, rural and suburban residential, local community services.	1 per 1-5 acres.
b. C-P, Community Plan. Area	NOTE: Detailed in Public Facilities Element section of report.	
c. R-S, Rural Service Center	NOTE: " " " " " "	" " " "
d. P-S, Public Service Facil.	Public service sites and facilities; airports, etc.	None

* Standards for population density and building intensity apply to extensive land areas, and are subject to reasonable variations based on zoning and other precise studies.

B. CIRCULATION ELEMENT STANDARDS

The circulation element of the General Plan includes the various units of a total circulation system for the plan area, including roads and highways, railroads, airports and waterways.

1. Waterways. The Sacramento River, and the existing and future lakes and reservoirs provide waterways for recreational traffic, with limited potential for commercial or industrial purposes.

Proper standards for terminal facilities may be ensured through zoning and permit procedures wherever shoreline properties are in public ownership or subject to flood plain or other zoning, and otherwise per Recreation Element plans and standards.

2. Railroads. Railroad facilities are subject to Federal and State standards of operation, and major expansion of facilities is not anticipated in the plan area.

Extended local freight service is encouraged, subject to established standards.

3. Airports. The County airport at Colusa is proposed to be improved in accordance with standards of the California Aeronautics Division and the Federal Aviation Agency.

4. Roads and Highways.

a. State Highways: proposed for full freeway construction standards.

(1) Interstate Route 5, State Route 20.

b. State Highways: Proposed for State expressway construction standards.

(1) Sign Routes 16, 45.

c. Scenic Highways: The Master Plan for the State Scenic Highway System (preliminary), includes no routes in Colusa County.

The plan recommends the inclusion of such routes in the County General Plan, and in accordance with the State Master Plan standards.

d. County Roads: County Roads on the Plan are classified as:

(1) Arterial and Collector: Through routes of major importance, to be included in the County Select Road system. Right-of-way, 60-90'+.

(2) Scenic Road: Routes of special service character of a recreational, scenic or resource access nature. Right-of-way 60'+.

C. RECREATION ELEMENT STANDARDS

Five types of parks or recreation areas are proposed in the County Plan, and are classified as follows:

1. Neighborhood Parks: These are intended to serve residential neighborhoods or rural communities at a ratio of one per elementary school, or 500 families, and site areas of from 2 to 5 acres, or one acre per 100 families. They are pro-

posed to be turfed and landscaped, and to be developed with playground equipment and game areas for tennis, softball, etc. They should be located adjacent to elementary schools wherever conditions permit.

2. Community Parks: These are intended to serve communities of groups of neighborhoods at a ratio of one per community of from 3,000 to 10,000 persons, and on sites ranging from 5 to 10 acres or more. They should utilize natural settings on rivers, streams, reservoirs, or groves of trees, etc. They should provide picnic sites, swimming, boating and fishing, open play areas, etc., as conditions permit.

3. Regional Recreational Areas: These are intended to include State and Federal recreation or water project sites in both the valley and mountain areas of the County which are used by persons from a region larger than the County. They are to be developed in relation to the natural features they contain, and may in some cases be administered by local agencies.

4. Federal Recreational Areas: These include National Forest recreational sites, and National Recreation Areas of major proportions. They are developed and operated by Federal agencies in accordance with plans of such agencies, and are designed to serve areas far beyond the County boundaries.

5. Special Recreational Areas: These include sites developed in coordination with the above by the County, public utilities, special districts, or State or Federal agencies, and usually on a cooperative basis, with maintenance and operation by a local agency.

D. HOUSING ELEMENT STANDARDS

This element of the General Plan is developed to meet the standards for such plans as established by the California Council on Intergovernmental Relations and the U. S. Department of Housing and Urban Development.

E. PUBLIC FACILITIES ELEMENT STANDARDS

This element of the General Plan is developed to meet the standards established by the Farmer's Home Administration and the Department of Housing and Urban Development for comprehensive water and sewer systems plans.

Standards for other public facilities are as follows:

1. Elementary Schools:

Site: 5 acres plus 1 acre per each 100 students.

Capacity: 500 students (variable in rural areas).

2. Junior High Schools:

Site: 20 plus acres.

Capacity: 800 students (variable).

3. High Schools:

Site: 40 plus acres.

Capacity: 1,000 - 1,500 students (variable).

4. Fire Stations:

Per Pacific Fire Rating Bureau and State Forestry Standards.

5. Libraries:

Per National Library Association and County Library Standards.

7. Airports:

Per standards of Circulation element.

8. Waste Disposal Sites:

Per standards of Department of Public Works and appropriate State agencies.

9. Water Supply and Sanitary Sewer Systems.

Per Public Facilities Element standards.

V. DESCRIPTION of GENERAL PLAN ELEMENTS

A. LAND USE ELEMENT of the GENERAL PLAN

This element of the plan, as shown on the General Plan map, assigns classifications to land areas of the County which indicate desirable primary uses of such areas together with general population density and development intensity standards. A description of the classification areas follows.

1. Conservation, Multiple Use. Lands within this classification are within the Mendocino National Forest boundary, including some private parcels with the more extensive Federal ownerships.

The area is mostly forested mountains with soils suitable for forestry and some light grazing. The Forest Service lands are managed in conformity with multiple use plans for forestry, grazing, mining and recreation, and the General Plan incorporates such plans, together with standards to limit population density to seasonal recreational and light agricultural

2. Conservation, Watershed-Recreation. This classification is applied to Forest Service and Bureau of Land Manage-

LAND USE ELEMENT

CIRCULATION ELEMENTRECREATION ELEMENT

SCALE 0 1 2 3 MILES

JAMES M CAMPBELL PLANNING CONSULTANT

WALTER B GRIMES CIVIL ENGINEERS &
ASSOCIATES LAND SURVEYORS

THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED
IN PART THROUGH AN URBAN PLANNING GRANT FROM THE
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT UNDER
THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF
1954, AS AMENDED

ment ownerships, and scattered private parcels, in the western mountains where soils are of poor quality for timber or grazing and where conservation measures to protect against erosion and wildfire are essential. Uses should be restricted to light agricultural, passive recreation and possible secondary forestry and mining. Population density is proposed to be very low except in cases where seasonal recreational home developments are found to be acceptable.

3. Conservation, Recreation. This classification has been applied to lands which are, in most cases, in public ownership and are exclusively or strongly oriented to recreation use purposes such as the National Wildlife Refuges.

4. Conservation, Water Project. Possible future water development project sites are included in this classification in order that the land areas involved may be identified and protected from uses and developments which might be detrimental to the projects and the public interest therein. Some private lands adjoining such sites are included to contain possible related recreational homesites and commercial service facilities, and with densities controlled by appropriate zoning.

Appropriate interim uses, such as agricultural, forestry, passive recreation and surface mining are encouraged, but residential subdivisions and other intensive developments are not compatible with the ultimate project use.

5. Conservation, Floodplain. This classification is proposed to be applied along flood channels to identify areas

which may be hazardous to life and property during flood stages. Agricultural and recreational uses are permissible, but non-farm residential and other intensive uses are not compatible with hazard conditions and free flow of flood waters.

Flood plain zoning should be considered, following more detailed studies, along various of the main river and stream channels in the County to protect against loss of life and property and to qualify for State and Federal assistance for necessary drainage, flood control, channel improvement and bank protection projects.

6. Conservation, Upland Grazing. Much of the rough foothill and mountainous area in the western portion of the County, extending from the flat valley lands to the National Forest boundary, is included in this classification. Because of the broken terrain and poor quality of soils, these lands are best suited to grazing and light agricultural uses. Passive recreation is a compatible use, and seasonal recreation homesite developments are acceptable only in particular cases following rezoning studies.

7. Conservation, Agricultural-General. Half of the valley floor is assigned this classification which includes diversified agricultural uses and related storage and processing operations. Soils in these areas have Class III and IV ratings, terrain is level to gently rolling, and irrigation water is presently or potentially available to most areas.

Land leveling, draining, fertilizing and irrigation

improvements are common in the area, and crop production will continue to encrease. The primary use is deversified agricultural and this use is promoted and protected by its classification and available zoning. Uses not compatible with agriculture are to be discouraged and a low population density maintained.

8. Conservation, Agricultural-Intensive. Valley lands with Class I and II soil ratings are included in this classification. Most of these lands are improved and in agricultural use. They have the highest potential for agricultural production, and the greatest need for protection.

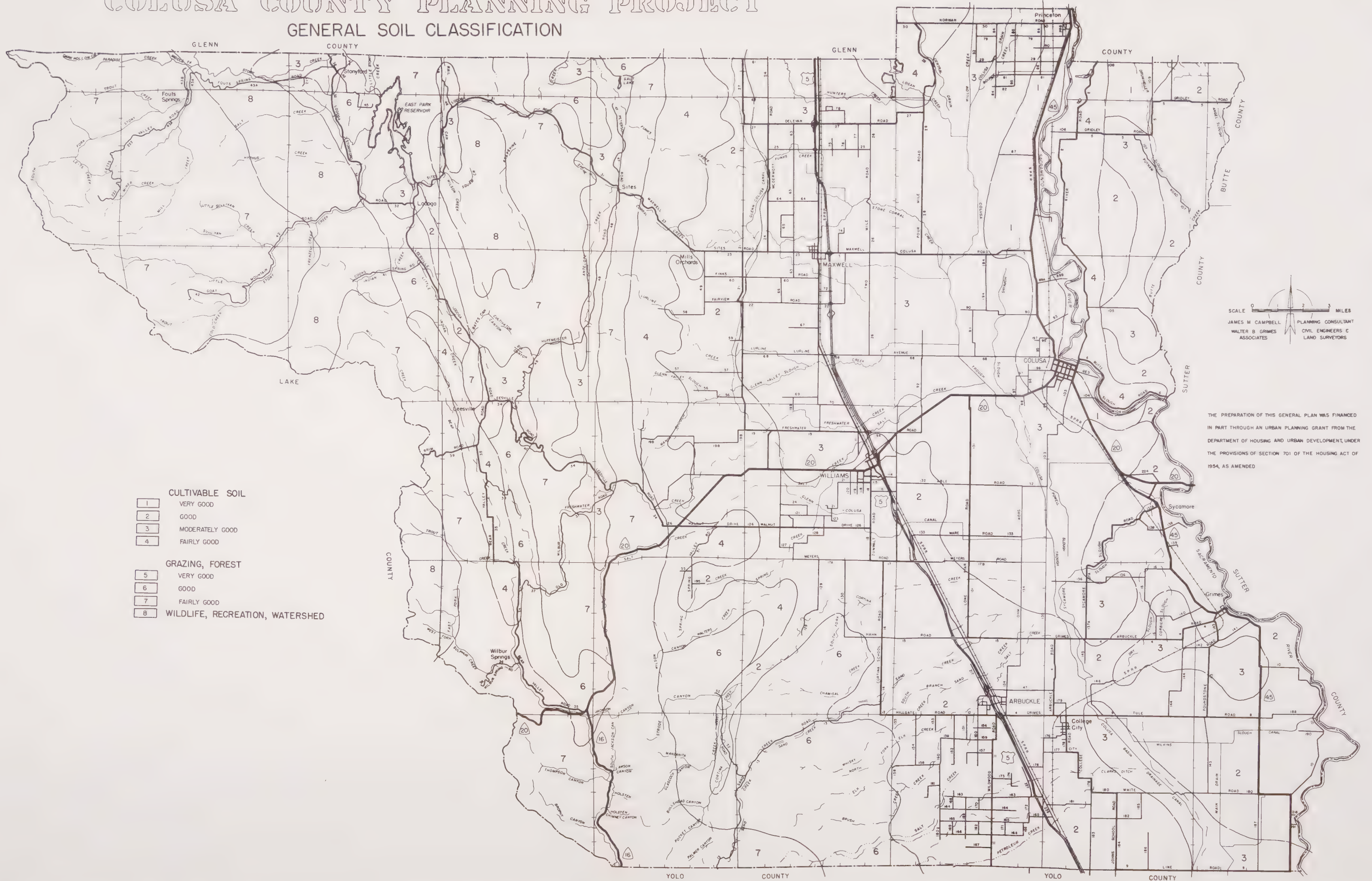
The economic stability of the County in future years depends heavily upon the continuing use of these lands for increasingly intensive production. Their protection from the intrusion of detrimental or incompatible uses is essential, and protective zoning is to be encouraged.

9. Agricultural-Transition. Lands in this classification are agricultural lands with Class I, II, III or IV ratings which are located in or adjacent to urban communities or rural service centers, where parcels vary greatly in size, and where agricultural uses are becoming intermixed with small homesites, residential subdivisions, commercial and industrial operation and other urban type uses.

These areas are in some degree in transition from agricultural to suburban or urban type uses, and they require detailed classification and protective regulation by precise

COLUSA COUNTY PLANNING PROJECT

GENERAL SOIL CLASSIFICATION



SCALE 0 1 2 3 MILES
JAMES M. CAMPBELL PLANNING CONSULTANT
WALTER B. GRIMES CIVIL ENGINEERS & LAND SURVEYORS
ASSOCIATES

THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED

zoning.

More detailed land use designations are included in the Public Facilities Element studies and plans.

10. Community Planning Area. These classification areas, as shown on the General Plan map, include the City and community planning areas which are more fully detailed in the Public Facilities Element to provide workable guides for zoning and for water and sewer systems planning.

11. Rural Service Center. These areas, which are the smaller rural communities which have urban or service characteristics and varied land uses, are further detailed in the Public Facilities Element plan, and for the same purposes as above.

12. Public Service Facilities. This classification is applied to existing or proposed large acreage sites of major public service uses such as airports. These sites in most cases are duplicated and more fully described in other General Plan Element sections, (Circulation, Recreation and Public Facilities).

B. CIRCULATION ELEMENT of the GENERAL PLAN

This element of the General Plan provides a long-range guide for the development of a comprehensive circulation system, including roads and highways, airports, railroads and waterways.

1. State Highways: These include Interstate Freeway Route 5, State Freeway System Routes 20 and 45 north of 20, and State Highway Routes 16 and 45 south of 20.

The General Plan map shows the existing and future alignment and structure locations on Interstate Route 5. The plan proposes that other units of the State system be aligned and constructed or improved to the standards of their classifications at the earliest possible dates.

Major relocation and improvement of Route 20 is proposed at Colusa, as shown on the City of Colusa and the County General Plans.

Route 45 is proposed for progressive improvement, and with a future classification of either State Scenic Highway or State Recreation Parkway because of its scenic and recreational characteristics. The plans of Glenn and Tehama Counties propose that this route be extended, as a State Highway Route, northerly into Tehama County along the Sacramento River.

2. County Roads. The plan shows the County Road System as units of the "Select System" and Minor Roads. The Select System includes Arterial and Collector Roads which are subject to reclassification in accordance with Federal and State standards. It is intended that the plan designation of Select System roads will provide the basis for road improvement and financing programs, and that this element of the plan will be reviewed and revised annually as conditions require. A bridge crossing of the Sacramento River and various other County Road system extensions and improvements are shown on the plan.

3. Scenic Roads and Highways. Future "Scenic" classification is applied to State Route 45, as indicated above, and

to State Route 16 and the westerly portion of Route 20. County roads in the vicinity of Sites Reservoir and East Park Reservoir are also given a Scenic Road designation.

4. County Airport. The County airport at Colusa is a primary element of the County circulation system. Its progressive improvement is essential and may be accomplished through full utilization of State and Federal assistance programs. Protection of approach zones, air navigation and public safety must be improved by land and/or air rights acquisition, protective zoning and careful land use controls on adjacent properties.

5. Railroads. The plan recognizes the importance of railroad freight transportation facilities, and anticipates improvements as they may be required in the future.

6. Waterways. Although the Sacramento River was used as a passenger and freight waterway in past years, present conditions restrict its use to small pleasure craft for cruising, fishing and water sports, and to limited freight barge traffic. Future dredging and channel improvement from Sacramento to Chico landing would permit economical barge transport for a variety of bulk products. East Park Reservoir is an attractive recreational waterway, and the possible future Sites Reservoir would offer an outstanding boating facility.

C. RECREATION ELEMENT of the GENERAL PLAN

This element of the General Plan is a coordinated comprehensive plan for the development of recreational sites

and facilities by Federal, State and local agencies. It offers the prospect of increasing recreational activity as a source of pleasure and economic benefits.

1. Federal Lands. Recreation Management Plans of the Mendocino National Forest are incorporated in the General Plan, and constitute a major unit of the plan. The National Forest is a large scenic area with strong potentials for varied recreational uses. There are at present a number of improved camp sites, picnic sites and campgrounds, and numerous unimproved camp sites are located throughout the Forest. Further improvements will be constructed as need develops and access is improved.

Scattered remnants of Public Domain lands, administered by the Bureau of Land Management, are located adjacent to the National Forest. These, in some cases, offer public recreation potential, and are classified for retention for possible public use purposes.

The National Wildlife Refuges are units of a series of these special purpose recreation sites located along the wildfowl flyway in the Sacramento Valley, and contributes to the perpetuation of the hunting resource.

Federal water projects provide major intensive recreation use sites, both present and future. East Park Reservoir is a good example of an attractive water body area with a potential for improvements for varied public use.

When the proposed Sites Reservoir is constructed as

a unit of the Tehama-Colusa Canal project, it will become an attractive recreation lake more than twelve miles long and averaging about two miles in width. This reservoir site must be protected, both as a part of the canal system and as a major recreation area.

2. State Parks. The Colusa-Sacramento River State Recreation Area, located on the river at Colusa, is a 67 acre site acquired and developed by the State at a cost in excess of \$200,000. It is identified as a marginal unit which has expansion potential, and is not included in the proposed five year development program for State Parks. A long-range improvement project for the site should be urged in the State study of a string of inland valley river parks.

3. County Parks. Although Colusa County has not developed a system of County parks, it has been involved in several projects in cooperation with State recreation agencies. Such projects offer the best approach for the future, as follows:

a. Bond Act Parks, State Grant Program

This program provides a Bond Act grant of \$75,000.00 to Colusa County for open space recreation site acquisition and/or development. Two or three alternate or combination sites have been selected for this program:

(1) Lower Letts Valley Lake

This is a proposed Bond Act site which is coordinated with the Mendocino National Forest recreation program, and which might also include Wildlife Conservation Board

participation. The site has previously been planned for a twenty acre lake for fishing and boating, and with related picnicking and camping facilities.

(2) East Park Reservoir

This site offers an attractive area for diversified public recreation to be developed in cooperation with the U.S. Bureau of Reclamation, and possible Wildlife Conservation Board assistance. A development plan has been developed by the National Park Service for comprehensive long-range development.

(3) A possible third Bond Act site on the Sacramento River has been proposed, and has become a unit of the General Plan by action of the Board of Supervisors.

b. Wildlife Conservation Board Program.

The hunting and fishing access program of this agency provides funds for a variety of public hunting and fishing projects. Sites for such projects in Colusa County are:

(1) Possible supplementary improvements on the Bond Act sites.

(2) Possible future sites along the Sacramento River or in the mountain recreation areas.

c. Department of Harbors and Watercraft.

This agency may assist in the development of permanent recreation facilities related to pleasure boating including intensive use boat launching, docking and services.

Major river or reservoir sites may well include this program in the future.

d. The above State agencies may utilize Federal funds from the Land and Water Conservation program in various of their projects, which combination funding is encouraged in the plan.

e. Other County Parks.

Because of the broad coverage of the various existing and proposed Federal and State agency recreation programs to meet regional needs, Colusa County is left with the responsibility of providing sites and facilities of an intermediate type, as and when they may be required in the future, and a possible supervisory or management role for Bond Act or W.C.B. projects.

f. Local Parks.

The Cities of Colusa and Williams maintain local parks, and provide for future needs in their individual plans.

D. HOUSING ELEMENT of the GENERAL PLAN

This element of the General Plan is a document which was prepared with the assistance of various public agencies and officials, including the County Housing Authority, Building and Health Departments, Agricultural Agencies, etc., and with supplementary data supplied by realtors, chambers of commerce and others involved in the broad field of housing.

Standards and guides which were used for the drafting of the Housing Element were those made available by the Department of Housing and Urban Development and by the California Council On Intergovernmental Relations.

The Housing Element of the Colusa County General Plan is included in the following section of this report.

HOUSING ELEMENT of the GENERAL PLAN

COLUSA COUNTY, CALIFORNIA

(Initial Housing Element, per HUD MD 6041.1, Appendix 2-A)

I. INTRODUCTION, BASIC DATA.

A. Location

Colusa County is located in the Sacramento Valley of California about 50 miles northwest of the State Capitol in Sacramento. The County extends from the Sacramento River and Butte Creek westerly across a broad valley area into rolling foothills and on to its western boundary in the Coast Range Mountains.

B. Topography

The greater area of the County lies in the fertile valley, with elevations ranging from 30 feet along the Sacramento River to nearly 7,000 feet in the westerly mountain peaks. Drainage is mainly easterly from the hills to the river.

C. Climate

The climate is typical of the Central Valley of California, with warm, dry summers, moderately rainy winters and a long growing season. Light snows fall occasionally on the high mountain ranges, and severe frosts are rare.

Average annual rainfall is about 16 inches.

Average temperatures are: minimum, 47.8 degrees.
 mean, 60.9 degrees.
 Maximum, 74.1 degrees.

Average length of growing season is 272 days.

D. Land Resources

Colusa County has a total land area of . . . 738,000 acres.
Of this total, 15.1% is in Federal ownership . . 111,770 acres.
Commercial forest land occupies an area of . . . 27,000 acres.
Of this, the publicly owned area is 26,000 acres
and the privately owned area totals 1,000 acres.

The balance of the County is classified,

Cropland . . . 289,000 acres.
Grassland . . . 204,000 acres.
Urban, industrial, etc. . . . 71,000 acres.
Desert, marsh, barren . . . 72,000 acres.

E. Population

Population in Colusa County has increased at a relatively slow rate during the past 50 years, with the rural areas at a constant and predicted diminishing level, and the increase occurring within the Cities and urban communities.

Population census and estimate figures are as follows:

	<u>1920</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>Census or est.</u>
County	9,290	10,258	9,788	11,651	12,075	12,200 (1968)
Colusa			2,285	3,031	3,518	3,825 (1965)
Williams			814	1,134	1,370	1,710 (1966)
Forecast of the State Department of Finance: County, 1980, 11,800						
Voter registration figures: 1962, 5636; 1968, 5,038						
Births and deaths: births 1964, 200; 1968, 138						
deaths 1964, 134; 1968, 136						

Population Density: California, 126 persons per square mile.

Colusa County, 10 persons per square mile.

F. Employment

Estimates of employment in the year 1967, as prepared by the State Department of Employment are as follows:

Labor force: 4,675 persons.

Employment: 4,525 persons.

Non-agricultural employment: 2,675 persons.

% of employed non-agricult.: 59%

% of employed in agriculture: 41%

% change from 1960: labor force decreased 0.5%.

non-agricultural employment increased
by 14.4%.

G. Income

State income tax figures for 1966 show an adjusted gross income for the County of \$32,000,000. The average per income tax return was \$8,978, comparable to the State average of \$8,924.

A compilation of the State Chamber of Commerce shows personal income figures for Colusa County as follows:

<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
\$46,266,000	\$46,595,000	\$53,143,000	\$50,425,000

Taxable retail sales in 1967 were: \$22,927,000

Increase over total for 1960 was: 35.3%

Total value of crop production, 1968: \$59,666,810

Total value of crop production, 1964: \$43,215,280

H. Summary of Basic Data

1. Colusa County is located in an agricultural area with soils and climate favorable for continuing high production of agricultural products.

2. The sound economy of the County is based on agriculture,

and its stable employment is geared to agriculture and related service operations.

3. Although agricultural production is increasing, the number of farms is decreasing and total population is predicted to decrease.

4. Loss of population in farm areas will be offset in some degree by increase in urban areas.

5. Slow increase in manufacturing and commercial operations in the urban areas, and in recreational homesite developments in the rural and mountain areas, may produce a reversal of the population loss trend.

6. The above statements indicate in general that the housing needs are minimal in the rural farm areas, and future needs will be largely concentrated in the urban and urbanizing recreation areas.

II. STATEMENT OF PROBLEMS

A. Agricultural Areas

1. Farm sizes are increasing, and absorbing smaller properties, because of the economic necessity to mechanize farm operations and reduce permanent personnel. Housing for permanent personnel on farms is no particular problem. However, large numbers of seasonal migratory workers are still required at various times to work in the numerous types of crops.

Housing for migratory workers is a recognized problem which has recently been reduced in part, and for which a solution is proposed in this plan report.

B. Urbanizing Recreation Areas

1. Recreational homesite subdivisions in the rural and mountain areas are relatively new in the County. It is anticipated that they will become more numerous and that the potential for minor housing problems will be controlled by careful planning and adequate regulations.

C. Cities and Urban Communities

1. The population increases in the urban areas have created a housing shortage for moderate income families employed in commercial and industrial operations, warehousing, wholesale and service activities and governmental positions.

During recent years several subdivisions have been developed in the urban areas, providing homes in the \$28,000 to \$40,000 and in the \$12,000 to \$18,000 ranges. No particular problem exists in the higher ranges.

The critical need is for housing in the \$12,000 to \$25,000 range for moderate income families, and the problem is to find a means to produce such housing.

D. Summary of Housing Problems

Analysis of housing conditions in the County indicates that the above statements cover the recognized problems. Factors considered were:

1. There are few sub-standard homes in the County, located in a scattered pattern in rural and urban areas, and will in most cases be renovated or demolished under code enforcement.

The few minority group members in the County are integrated into the communities, and do not constitute true groups or represent special housing problems.

3. Although there is no public transportation service in the County, this condition does not create a problem except for those who must now commute long distances because of the lack of low cost housing in the urban areas.

4. There are no relocation problems in the County due to major construction projects.

III. STATEMENT OF OBSTACLES

1. Relatively high land costs, and very high construction costs for moderate and low cost housing where the demand is for a limited number of units, builders costs for transportation of materials and personnel travel are high, and profit potential is low.

2. Inadequate Federal and State financial assistance and loan programs for moderate income housing.

3. Restrictive residential mortgage and loan policies related to the general area.

4. Current prohibitive interest rates on home loans.

5. Inadequate local resources for financing, or assisting in low cost housing.

Note: Land areas are available for needed housing where water, sewer, power, telephone and other services may be provided. Local codes and zoning are beneficial rather than detrimental. Financing of the needed housing is the only true obstacle.

IV. HOUSING OBJECTIVES

1. To construct 100 units of low cost, (\$1.00 per day) migrant farm housing, with related day care center, laundries, etc. within the next three years under the program of the Office of Economic Opportunity.
2. To encourage and seek assistance in the construction of 100 homes in urban areas in the \$12,000 to \$25,000 cost range within the next five years.
3. To find means at the earliest possible date to provide supplemental housing funds through the Welfare Department in particular cases of need.
4. To evaluate the Housing Element of the General Plan on an annual basis.
5. To establish a permanent Migrant Farm Housing Committee to advise and recommend to the Housing Authority (Board of Supervisors) solutions to farm labor housing needs on a continuing basis.
6. To solicit the State of California to continue to study and legislate property tax relief programs, and so encourage and enable moderate income group families to purchase homes.
7. To solicit the State and Federal Governments to reduce existing high home mortgage interest rates.

V. STATEMENT OF PLANNING ACTIVITIES

1. Previous Planning Activities

- a. The County Housing Authority initiated a project, under the OEO program, for 100 units of migratory farm labor housing.
- b. The County of Colusa and City of Williams undertook the current General Plan preparation project under the HUD "701" Local Planning Assistance program.

c. The City of Colusa has adopted a General Plan.

d. Local City and County officials have worked with F.H.A. and other Federal agencies to find methods of obtaining favorable financing methods for low and medium cost housing.

2. Future Planning Activities

a. Review State and Federal public housing legislation.

b. Review 1970 Census data related to housing.

c. Assemble housing data related to building permits issued, deficiencies, vacancies, etc.

d. Prepare housing market analysis.

e. Prepare a five year housing plan.

f. Continue housing review coordination by the Planning Commissions, staffed by the Director of Public Works, Planning Commission Secretaries, Building Inspectors, Health Officer, Social Welfare Director, Agriculture Commissioner, and assisted by professional Planners and Engineers. Recommendations to be submitted on an annual basis to the City Councils of Colusa and Williams, and the Housing Authority (Board of Supervisors).

g. Seek guidance and comments on housing problems from non-governmental agencies such as the Chamber of Commerce, local banks, Real Estate agencies, Civic and Community groups.

h. Annual review of the Housing Element of the General Plan by the City Council of Colusa, City Council of Williams, the Housing Authority (Board of Supervisors) and followed by recommendations submitted to the Area Planning Commission for review and adoption into a County General Plan.

VI. STATEMENT OF IMPLEMENTING ACTIONS

1. Previous Implementation Actions

Previous actions have been set forth in the preceeding section of this report.

2. Future Implementation Actions

a. Seek Federal financial assistance in the development of needed sewer, water and drainage facilities for the Cities of Colusa and Williams.

b. Encourage and solicit State legislation for increased tax incentive for increased housing for the moderate and low income groups.

c. Complete in Fiscal Year 1969-70 Office of Economic Opportunity project for One Hundred Units of Migrant Farm Housing with related Day Care Center, laundries, streets, facilities south of Williams.

d. Continue the operation of the Housing Authority (Board of Supervisors) in the County of Colusa.

e. Continue the comprehensive planning activities of the Cities and County of Colusa Area Planning Commission.

G. PUBLIC SERVICES and FACILITIES ELEMENT of the GENERAL PLAN

This element of the General Plan is also referred to as "The Comprehensive Area Plan for Water and Sewer Systems".

It is a relatively new type of General Plan element, and with little precedent under 701 planning grant programs. Also, this element is a prerequisite to the application by a local jurisdiction for a variety of Federal financial assistance program loans and grants for the construction of water and sewer system facilities.

For these reasons the Colusa County element was developed substantially in accordance with the "GUIDES FOR USE IN THE PREPARATION OF COMPREHENSIVE AREA PLANS FOR WATER AND SEWER SYSTEMS" provided by the Farmers Home Administration (FHA Instruction 442.7, Exhibit A).

Most of the general narrative and map data listed in the Guide appears in preceding sections or in part 1. of this section, and additional large scale colored study maps showing public and private land ownerships, existing uses of land and proposals for future land use and zoning were prepared as part of the basic studies for the project and are available for reference purposes. The more technical engineering text and maps follow in part 2. of this section.

1. Basic Data for Public Services and Facilities Element

GENERAL DESCRIPTION

Colusa County is located in the Sacramento Valley of California about 50 miles northwest of the State Capitol in Sacramento. The County extends from the Sacramento River westerly across a broad valley area into rolling foothills and on to its boundary in the Coast Range Mountains.

TOPOGRAPHY

The greater area of the County lies in the fertile valley, with elevations ranging from 30 feet along the Sacramento River to nearly 7,000 feet in the westerly mountain peaks. Drainage is mainly easterly from the hills to the river.

CLIMATE

The climate is favorable for agriculture, with warm, dry summers, rainy winters and a long growing season. Light snows fall occasionally on the high mountain ranges, and severe frosts are rare.

Average annual rainfall is about 16 inches.

Average temperatures are: minimum, 47.8 degrees.

mean, 60.9 degrees.

maximum, 74.1 degrees.

Average length of growing season is 272 days.

LAND RESOURCES

Colusa County has a total land area of: 738,000 acres.
Of this total, 15.1% is in Federal ownership : 111,770 acres.

Commercial forest land occupies an area of: 27,000 acres.
 Of this, the publicly owned area is: 26,000 acres
 and the privately owned area totals: 1,000 acres.
 The balance of the County is classified,
 Cropland: 289,000 acres.
 Grassland: 204,000 acres.
 Urban, industrial, etc.: 71,000 acres.
 Desert, marsh, barren: 72,000 acres.

POPULATION

Population in Colusa County has increased at a relatively slow rate during the past 50 years, with the rural areas remaining at a constant level and the increase occurring within the Cities.

Population census and estimate figures are as follows:

	<u>1920</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1966</u>
County	9,290	10,258	9,788	11,651	12,075	12,700
Colusa			2,285	3,031	3,518	3,825
Williams			814	1,134	1,370	1,710

EMPLOYMENT

Estimates of employment in the year 1966, as prepared by the State Chamber of Commerce, are as follows:

Persons employed in agriculture: 2,569
 Total employment in the County : 6,433
 Census figures for 1960 showed : 1,567 in agriculture.
 4,563 total employed.

The above figures indicate that from 33% to 40 % of the County labor force is employed in agriculture.

INCOME

For the year 1967 the total personal income reported by residents of Colusa County amounted to \$50,425,000.

Taxable retail sales for the year were \$22,927,000.

Median family income in 1960 was \$5,604.00

Total value of all agricultural products in the year 1959 was \$28,243,406. In 1968 the figure was \$59,666,810.*

SOIL DATA

For purposes of this study, the following soils data has been assembled and utilized for land use and agricultural projections:

1. "Soils Survey, Colusa County, California", May, 1968, U. S. Department of Agriculture, Soil Conservation Service.
2. "Generalized Classification of Land According to Its Capability for Use", 1950, U. S. Department of Agriculture, Soil Conservation Service.
3. "Soil Classification, Sacramento Valley, California", Division of Soil Technology, University of California.
4. "Reconnaissance Soil Survey of the Sacramento Valley, California", 1915, U. S. Department of Agriculture, Bureau of Soils, and University of California.
5. Miscellaneous maps and reports of Federal, State and local agencies.

* 1968 figure from Colusa County Dept. of Agriculture.

IRRIGATED LANDS

The amount of land under irrigation in the County is increasing as financing, water sources and facilities are developed to utilize suitable land areas for intensified irrigated crop production.

Irrigated Lands:

1954	-	138,929 acres
1959	-	128,340 acres
1964	-	163,606 acres

TRENDS IN AGRICULTURE

The above data, and tables which follow, indicate the importance of agriculture in Colusa County. Topography, soils and climate are favorable, and the potential for greater production from increased irrigated acreage is being realized with the construction of new canal facilities.

Trends are toward more land in intensive production, increased total production, average farm size slightly larger, increased mechanization, more investment in machinery, land leveling and irrigation, and measures to stabilize taxation of agricultural properties.

COLUSA COUNTY - FARM DATA, Farm Cropland Acreages

Table I.

Cropland Harvested,	1945	1950	1954	1959	1964
Total:	117,009	205,802	231,559	227,623	
Unit Acreages,					
1 to 9 acres:	65	61	64	73	39
10 to 19 acres:	110	67	50	64	31
20 to 29 acres:	72	52	34	27	10
30 to 49 acres:	83	72	42	76	50
50 to 99 acres:	89	93	85	84	76
100 to 199 acres:	127	116	97	98	73
200 to 499 acres:	*444	*540	119	133	146
500 to 999 acres:			80	77	**130
1,000 or more acres:			67	60	

*200 or more acres.

**500 or more acres.

COLUSA COUNTY - FARM DATA, Number, Size, Use, Value.

Table II.

	1945	1950	1954	1959	1964
Number of Farms:	894	813	746	768	601
Land in Farms, Acres:	505,940	532,915	597,968	491,128	532,151
Average Farm Size, Acres:	565.9	655.5	801.6	639.5	885.4
Average Farm Value, Dollars:	29,730	60,277	116,000	135,087	274,866
Cropland Harvested, Acres:	177,009	205,802	231,559	227,623	239,255
Cropland Used for Pasture, Acres:	*39,325	97,303	73,065	45,886	54,777
Woodland Pastured, Acres:	60,972	77,859	77,529	45,354	33,519
Other Pasture, Acres:	*148,309	46,931	132,702	102,927	127,818
Irrigated Land in Farms, Acres:			138,929	128,340	163,606

*Figures not strictly comparable.

Table III.

COLUSA COUNTY - FARM DATA; Operators, Value of Products Sold

	1945	1950	1954	1959	1964
Estimated number of farms:	894	813	726	746	601
<u>Operator:</u>					
Full owner:		449	363	378	223
Part owner:		204	249	235	217
Manager :		10	12	7	14
Tenant :		150	122	126	147
<u>Value of Products</u>					
All farm products:	13,331,765	17,078,217	25,538,109	28,243,406	39,221,674
Average per farm :			35,176	37,860	65,261
All crops total:	10,699,418	13,405,222	22,170,584	25,436,975	35,493,287
Field crops :	6,939,565	10,946,491	17,827,817	19,939,619	29,059,312
Vegetables :	56,529	149,052	181,400	262,210	695,373
Fruits, nuts :	3,691,674	2,240,380	4,002,672	5,126,172	5,297,475
Forest products:	310	955	158,695	108,974	441,127
All livestock total:	2,632,037	3,672,040	3,367,525	2,806,431	3,673,404
Poultry products:	169,061	160,831	117,657	47,684	32,042
Dairy products:	461,936	387,745	431,869	223,425	505,840
Livestock other than poultry and dairy:	2,001,040	3,123,464	2,817,999	2,525,322	3,135,522

2. INTRODUCTION TO THE PUBLIC FACILITIES ELEMENT

The Public Facilities Element of The General Plan for Colusa County consists of three basic parts as follows:

BASIC SURVEY DATA

The basic survey data is made up of inventory of water resources, water development plans and projects, existing water and sewer systems, public utility facilities and solid waste disposal sites for the various urban and suburban areas throughout the County of Colusa. This data is shown on the several maps which are a part of this report and described in detail throughout the report.

GENERAL PLAN ELEMENTS

The general plan elements make use of the basic survey data in the development of long range plans for sewer and water systems, solid waste disposal, protection of underground and surface waters from pollution or contamination and for the protection of the public health and general welfare. It is the purpose of the general plan elements to take a long range, general look at each of the public facilities involved, and to forecast the necessity for general upgrading and expansion of the particular public facility in question.

SPECIFIC PLAN ELEMENTS

The specific plan elements consist of proposals for revision in sewer and or water districts, schematic plans for community sewer and water districts including water source site development, water transport, sewage treatment, primary pipe size requirements, and stage system development related to immediate, ten, and twenty year requirements. As part of the specific plan element, estimates of costs of capital improvements were developed for the stage developments outlined above. It will be noted by referring to the maps certain areas outside the existing boundaries of sewer and water districts are shown as receiving service either immediately or at some time in the future. It would serve no useful purpose to show the precise revisions in the district boundaries, however such revisions are implied by the fact that sewer and water facilities are shown outside the districts. Due to the distance between the various districts in question, there are no instances where districts could be combined in the foreseeable future.

In the interests of clarity the basic survey data, general and specific plan elements were combined on the maps for the several areas under study.

The specific areas of study as outlined in the contract between the State of California, State Office of Planning, and James M. Campbell, the Planning Consultant are as follows:

WILLIAMS PLANNING AREA

Separate maps showing sewer and water facilities were prepared for the area within the City limits of Williams and the general Williams Planning Area. Since it is probable that any future sewer and water development in the Greater Williams Planning Area will come only as a result of annexation to the City, the written text combines the City of Williams and Williams Planning Area.

ARBUCKLE PLANNING AREA

COLUSA PLANNING AREA

COLLEGE CITY PLANNING AREA

GRIMES PLANNING AREA

PRINCETON PLANNING AREA

MAXWELL PLANNING AREA

LODOGA TOWNSITE PLANNING AREA

STONYFORD PLANNING AREA

CENTURY RANCH PLANNING AREA

The Century Ranch was not specifically named in the above mentioned contract, however due to its proposed size and impact upon the entire County, it is felt that mention of the planning for this area should be included in this report.

It must be emphasized that the following report is intended to be general in nature and does not constitute a rigid plan. The plans which are attached to this report are schematic in nature, and although the major line sizes and sizes of other facilities shown are accurate, it is likely that during the course of final planning for these projects, locations may vary from those shown on the plan. The estimates which are included in this report are intended to show the magnitude of work to be done and again, are general in nature. It will be noted that all estimating prices used were at today's costs. Although it is probable that the costs of construction will continue to increase as they have in the past, it is not possible to predict these increases, and it is felt that cost figures which have been inflated to allow for future cost raises would not be realistic.

In the report which follows, it will be noted that for the sake of simplicity, the various elements of the report were grouped geographically. This grouping will facilitate comprehension of the entire public facilities picture for a given area without cross reference to a different part of the report.

3. COUNTY WATER RESOURCES

General

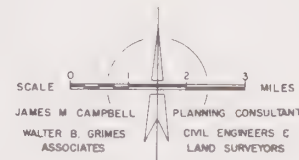
The principal irrigation districts serving Colusa County are shown on the attached map. The available water supply for irrigation purposes is comprised of diversions from the Sacramento River, Butte Creek and limited ground water pumping. Ground water supplies are ample to meet future municipal and industrial demands in the communities of Colusa County, which are located on the floor of the Sacramento Valley. It is anticipated that the long range demands for supplemental water in Colusa County will be served by diversion of Central Valley Project water supplies from the Sacramento River.

Future Water Developments

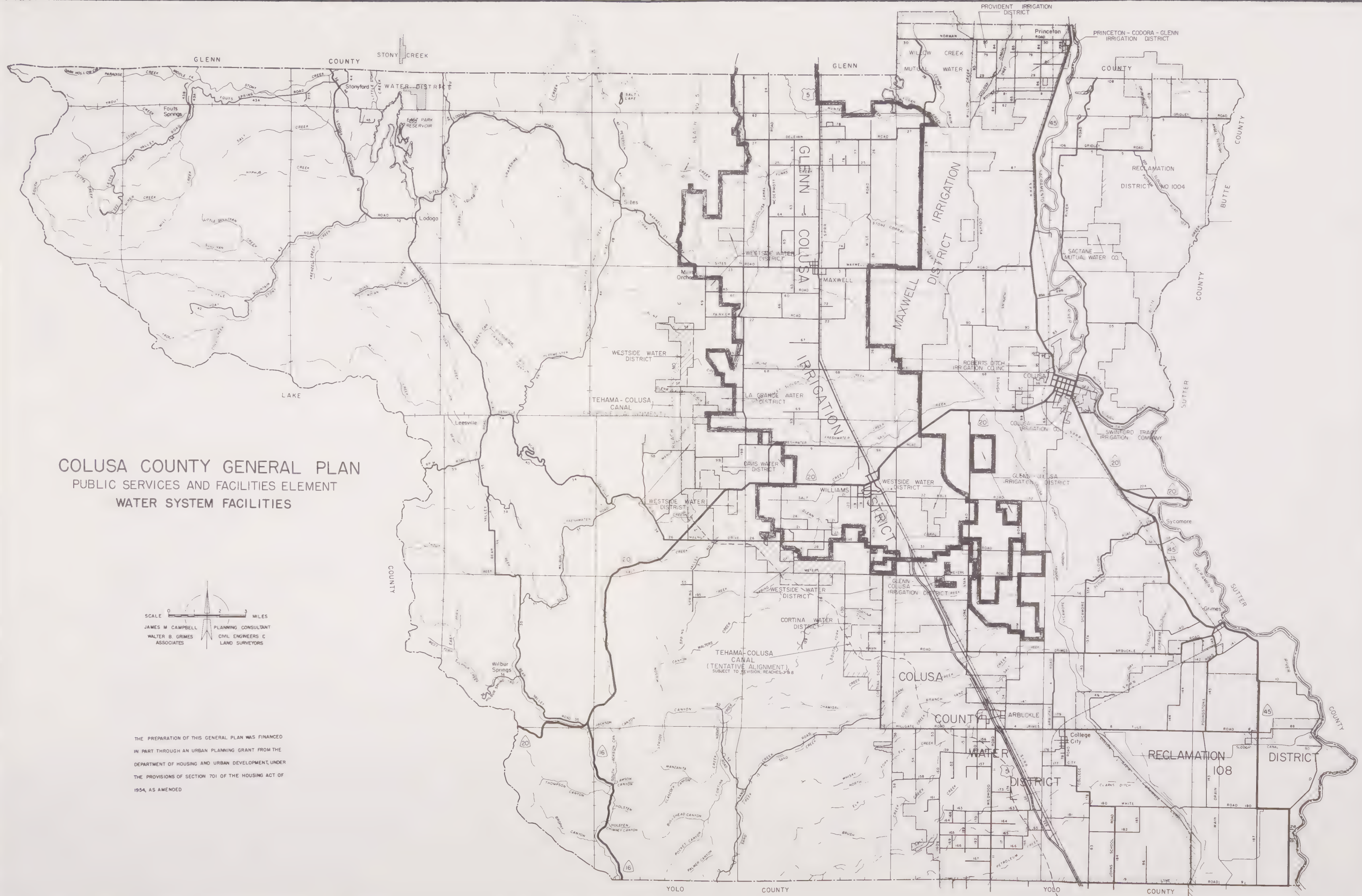
Because the economy of Colusa County is based primarily on irrigated agriculture, future water developments are of vital interest to Colusa County. The U.S. Bureau of Reclamation is currently making studies of possible sources to augment the water yield of the Central Valley Project. These sources include developments in the Sacramento Valley such as the Paskenta - Newville Reservoir, and in the North Coastal area.

The proposed Tehama-Colusa Canal which traverses the westerly edge of the valley floor through Colusa County is an authorized project. This Bureau of Reclamation project will make surface water available to approximately 90,000 acres of irrigable land. Construction of a substantial portion of the Tehama-Colusa Canal through Tehama County has been completed, however funding of the project has been slowed, because of national economic problems. Therefore, it is difficult to predict when water will be delivered through the canal to Colusa County. A significant addition to this project will be the Sites Reservoir, which will provide off-channel storage in order that the project may provide water service to Solano and Yolo Counties. This proposed Reservoir will have a surface area of over 12,000 acres and will have a recreation potential which will be significant to the economy of Colusa County.

COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT WATER SYSTEM FACILITIES



THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED



4. COUNTY SOLID WASTE COLLECTION AND DISPOSAL

During the summer of 1967 the Colusa County Board of Supervisors, recognizing the problems connected with solid waste disposal in the County, authorized the State of California Department of Public Health to prepare a study on the subject. The results of this report as well as developments since that time are incorporated herein.

Waste collection in the two incorporated Cities is currently accomplished by city forces. The Arbuckle, Grimes, College City, and Maxwell areas are served by a private collection agency, with disposal taking place at the various County dumps. Throughout the rest of the County, residents must haul their own refuse to one of the several County dumps. The County and Cities currently operate dumps located at or near Princeton, Maxwell, Colusa, Williams, Grimes, and Arbuckle. The U.S. Forest Service owns and operates dumps at Trough Springs, Letts, Fouts Springs, and Stonyford. The Stonyford dump, although owned and operated by the U.S. Forest Service is open to the general public.

The 1967 State of California report contained recommendations as follows:

1. Establish a well defined refuse management program with written policy, adequate budget and clear authority.
2. Adopt enabling legislation creating County ordinances that specify performance, area of responsibility, penalties for indiscriminate dumping, standards for disposal sites, and regulations for refuse collection in unincorporated areas.
3. Establish a large, centrally located, sanitary landfill to replace the Colusa, Williams, Grimes, and Arbuckle disposal sites.
4. Close or phase out the Colusa, Williams, Grimes, and Arbuckle sites.
5. Develop a plan to either: (a) Convert the Maxwell site to a sanitary landfill to serve this area and the Princeton area or, (b) Close the site and transfer the refuse to the proposed sanitary landfill serving the Colusa, Williams and Southern Colusa County area.

There are currently several methods of Solid Waste Disposal in use throughout the State of California and the Nation. Following is a brief discussion of the most common of these, together with comments. It should be noted that the comments given are necessarily brief and are only given in order that the reader may partially

appreciate the magnitude of the problem, and evaluate the recommendations contained in this report:

Landfilling: This is one of the most commonly used methods of solid waste disposal and has many variations, ranging from the common open trench type dump, to the more sophisticated sanitary landfill. This method has increased in popularity in areas where there is an availability of relatively low cost land and where land which is otherwise useless may be reclaimed due to the fill. Other advantages of the method include: low capital outlay and cost of operation, traditional acceptance by the public, and its adaptability and flexibility to accept a wide variety of waste of varying composition and amount with no pretreatment required.

Incineration: Incineration consists of burning solid or semi solid combustible waste to an inoffensive gas and a residue containing little or no combustible material. In order that proper incineration may take place it is necessary to have sophisticated incinerators which may only be constructed at an extremely high initial cost. The difference between incineration and open burning must be emphasized. Open burning does not qualify as incineration and generally exhibits the undesirable characteristic of air pollution. In addition, nearly all burning type dumps exhibit the additional characteristics of promoting fly, rodent and other pest breeding, undesirable odors and a general untidy appearance, such that these may be considered to be "dumps" and a blight on any area in which they exist.

Composting: Composting consists of the aerobic biological decomposition of solid organic material under controlled conditions. This again is a very refined process requiring segregation of compostable and noncompostable materials and requires sizeable capital outlays and complicated equipment in order to insure the aerobic process.

Other methods including grinding to sewers, ocean disposal, pyrolysis and animal feeding. These methods were investigated, however will not be considered in detail in this report.

Considerations of the environment involved indicate that the most desirable method of solid waste disposal for Colusa County is the sanitary landfill. It is felt that due to the relatively small County population and amount of refuse to be handled it is economically unfeasible for the County (or Cities) to operate more than one properly managed sanitary landfill.

In determining the number and location of sanitary landfills, the overall cost of landfill operation must be balanced against the

potential haul distances, and the costs resulting therefrom. Generally, a sanitary landfill can economically service 30,000 - 40,000 people, and it is normally unfeasable to provide a second landfill until the first is servicing this population. Analysis of the estimate attached to this report indicates that one centrally located landfill is the maximum which can be economically justified for the County. This leads to the recommendation that the Maxwell dump be abandoned, rather than being converted to a sanitary landfill. The County currently owns a parcel of land located south of Williams, which it intends to use as a sanitary landfill site. The use of this site has been incorporated into the following recommendations.

The abandonment of the several dump sites throughout the County necessitates the substitution of some central dumping sites at various locations, since it would be unreasonable to assume that County residents located in the outlying areas would haul refuse to the proposed sanitary landfill.

The proposed solid waste collection and disposal system would consist of the following elements:

- House to house collection in the Cities of Colusa and Williams, and the Arbuckle, College City, Grimes and Maxwell areas would continue as at present. Disposal would be at the proposed sanitary landfill.

- As a substitute for the various dumps located in the outlying areas, stationary packers would be located at convenient sites near Colusa, Princeton, Maxwell, Grimes, Arbuckle and Stonyford. Each stationary packer would have more than one container, each of which would have an uncompacted capacity of twenty-eight cubic yards. The containers would be of such a size and shape that they could accept household refuse, yard clippings, and other reasonable sized items. Larger items such as large furniture, appliances, etc. would be required to be hauled to the sanitary landfill by the individual. It is anticipated that these stationary packers would be located at a service station, grocery store or other locations such that vandalism would be minimized and a part time operator would be available for the packing operation. Additionally, should there be mechanical failures these could be immediately reported to the proper authorities. Since these packers compact the refuse, odor, fly breeding and rodents are not expected to be present, and the fenced packer sites will present a neat appearance. During periods of break down for the stationary packers it is possible to provide more containers at a given site since the refuse then would require hauling in an uncompacted condition.

One enclosed packer truck would be operated by the County and would empty the stationary packer containers. This single vehicle would be adequate to provide twice weekly service to each stationary packer, however it is felt that during the winter months once a week pickup may be adequate.

As noted earlier, the sanitary landfill site is proposed to be located south of Williams. A true sanitary landfill is the ideal classification of landfill and has the following characteristics:

Uniform compacted area of earth fill.

Covering of the refuse at the end of each working day

Total absence of burning

Minimum size working area at any given time.

Overall neat appearance as a result of the above.

In order that a true sanitary landfill may be operated it will be necessary to properly plan a sequence of locations to be used within the area. This necessitates preparation of a detailed plan showing topography, sequence of fill, location and type of proposed roadways, etc. It is anticipated that car bodies could be temporarily stored at a remote location on the site which is hidden from public view either by fencing, or topography of the land, or both. It is felt that a firm policy regarding disposal of car bodies should be established. It is possible that this landfill could serve as a storage place for car bodies until it was economically feasible for a commercial hauler to move in and bale the bodies and haul them to a market. Before the bodies are stored however, arrangements should be made with a hauler in order that the County does not find itself in position of needing to dispose of a large number of car bodies. If arrangements cannot be made for otherwise disposing of car bodies, they may be incorporated into landfill by crushing and covering them.

The following estimates of costs and revenues are given as a guide to the Board of Supervisors and the incorporated cities in order that decisions relative to solid waste collection and disposal may be made. It should be noted that the rates given are for the purpose of example and do not constitute a recommendation to the Board. The equivalent annual cost for each item was computed using a capital recovery factor over the life of each facility, with an interest rate of ten per cent.

COST ESTIMATE

<u>Item</u>	<u>Description</u>	<u>Capital Outlay</u>	<u>Equivalent Annual Cost</u>
1.	32 cubic yard packer truck, 6 stationary packers and containers. Life expectancy 6 yrs., capital recovery at sale 15%.	\$ 76,150.00	\$16,005.00
2.	Land purchase 80 Ac. @ \$500 - Life expectancy 20 yrs., recovery at retirement 100%.	\$ 40,000.00	\$ 4,000.00
3.	Survey, Appraisal, Legal, development of land plan, depreciate over life of site.	\$ 7,000.00	\$ 825.00
4.	Permanent road construction to site, life expectancy 20 yrs.	\$ 6,000.00	\$ 705.00
5.	Temporary access road construction, continuing operation.	\$ 2,500.00	\$ 2,500.00
6.	Construction of moveable wind-screens, life expectancy 5 yrs.	\$ 5,000.00	\$ 1,320.00
7.	Construction of equipment and personnel building, life expectancy 20 yrs.	\$ 8,000.00	\$ 840.00
8.	Earthmoving and compaction equipment, life expectancy 8 yrs., capital recovery at sale 30%.	\$ 35,000.00	\$ 5,640.00
9.	Construction of fencing at stationary packer sites, life expectancy 10 yrs.	\$ 6,000.00	\$ 975.00
10.	Furnishing and placing electrical controls-stationary packer sites, life expectancy 30 yrs.	<u>\$ 2,000.00</u>	<u>\$ 210.00</u>
	Sub totals Capital Outlay Items	\$187,650.00	\$33,020.00
	Contingencies	<u>18,850.00</u>	
	Total Capital Outlay	\$206,500.00	

Fixed Annual Costs:

1. Operation and Maintenance - 32 cy packer truck (with one operator).	\$13,060.00
2. Operation and Maintenance of stationary packers (including operators).	\$ 4,800.00
3. Operation and Maintenance costs - equipment at landfill (seven day operation).	<u>\$16,000.00</u>
Sub Total Annual Costs	\$66,880.00
Misc. overhead, bookkeeping, supervision, etc.	\$ 3,320.00
Contingencies	<u>\$ 6,800.00</u>
Total Annual Costs	\$77,000.00

Anticipated Annual Revenue:

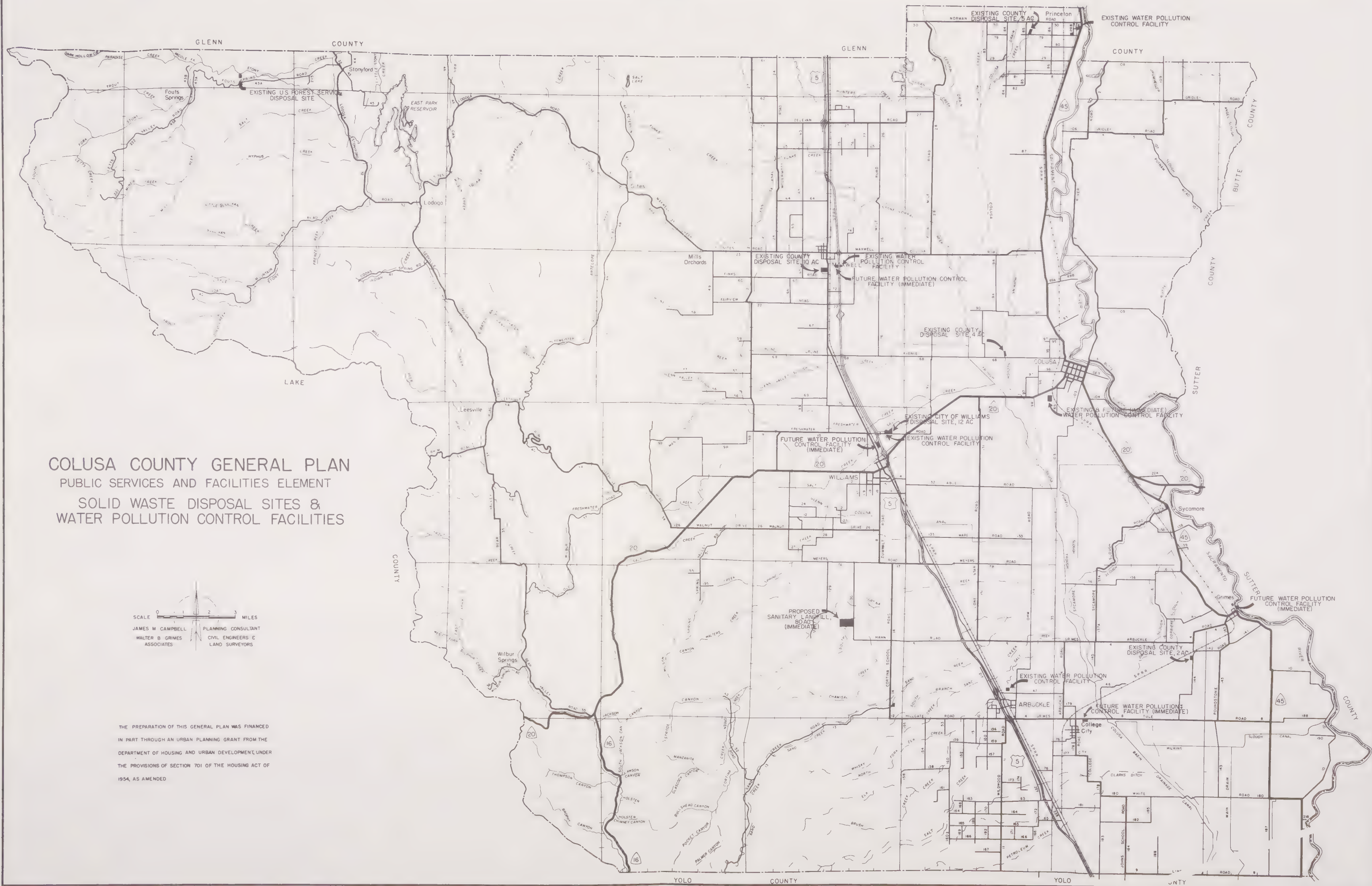
1. Service charges to private haulers (building demolition & similar).	\$ 1,000.00
2. Service charges to Cities of Williams & Colusa & private contractors.	\$ 2,000.00
3. Monthly service charge to residents (\$1.50/month/dwelling).	<u>\$77,400.00</u>
Total Annual Revenue	\$80,400.00

It will be noted that assuming some revenue from dumping charges, the above rate schedule will yield a net annual surplus if \$1.50 per month per dwelling is established as a County wide refuse rate. The possibility of charging individuals to dump pickup and car loads of refuse at the landfill was considered, however it is felt that should such a charge be established, it might encourage dumping at locations other than the sanitary landfill. When the probable revenue from this source (perhaps \$500 annually) is compared with the additional inconvenience and cost of law enforcement, this item is best deleted from sources of revenue.

COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT SOLID WASTE DISPOSAL SITES & WATER POLLUTION CONTROL FACILITIES

SCALE 0 1 2 3 MILES
JAMES M. CAMPBELL PLANNING CONSULTANT
WALTER B. GRIMES CIVIL ENGINEERS & LAND SURVEYORS ASSOCIATES

THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED



5. COUNTY PUBLIC UTILITY FACILITIES

General

The attached map shows the locations and sizes of the existing major gas and electrical lines located in Colusa County. Generally speaking, natural gas and electrical service is provided by Pacific Gas and Electric Company and services all populated areas on the Sacramento Valley floor. The less densely populated areas in the foothills to the west are provided with electrical power, however for the most part gas service is not available. Telephone service is available to all populated areas of the County, and is partially provided by Pacific Telephone and Telegraph Company. The major portion of the telephone service in Colusa County is provided by California Pacific Utilities Company. Due to certain federal regulations the telephone companies advised us that the precise locations of major telephone facilities are not available to the public. For this reason, these facilities are not shown on the public utilities facilities map.

Electrical Service

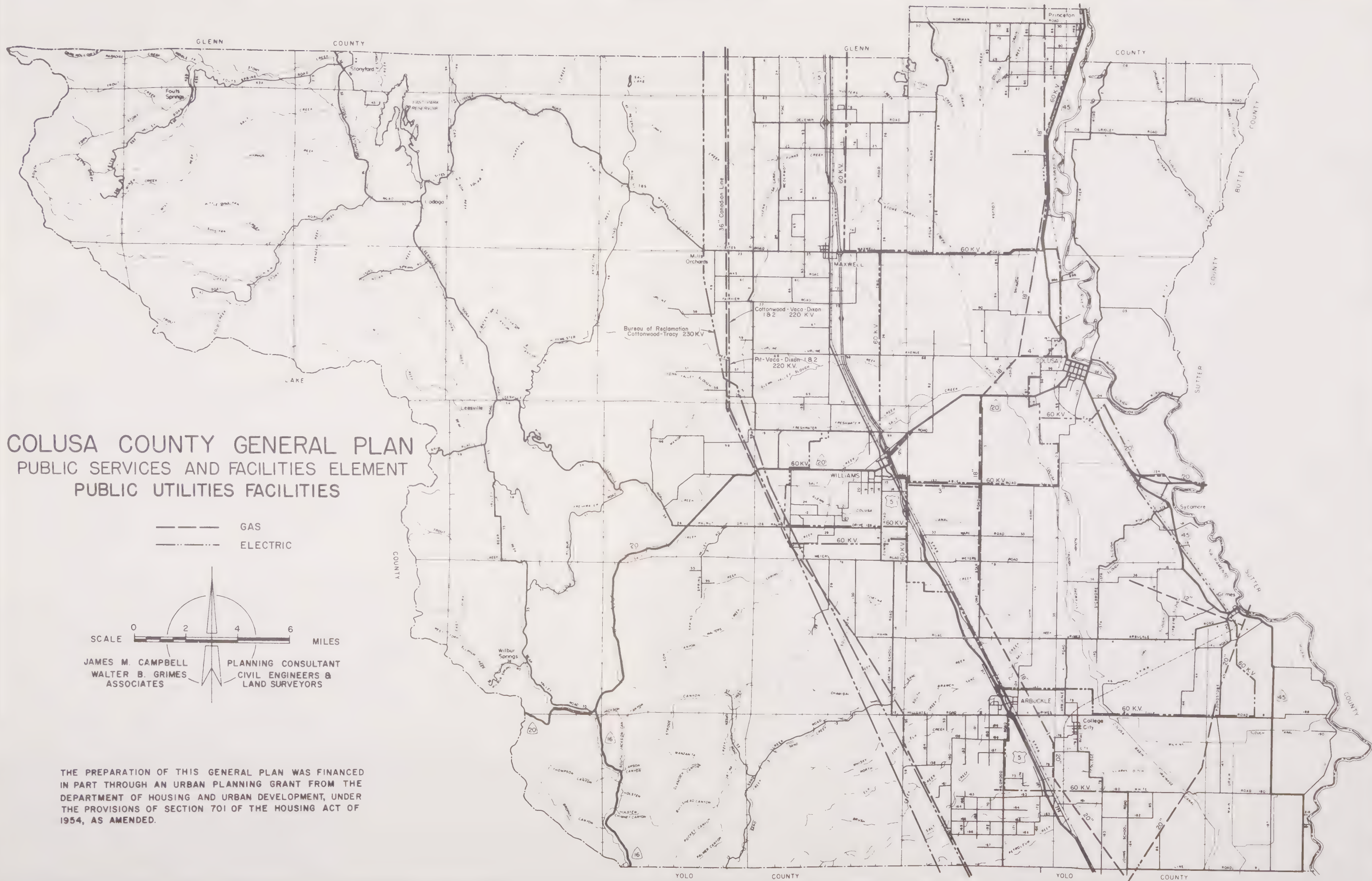
As shown on the drawing, the basic electrical service to the Colusa County area is provided by a two hundred twenty KV main transmission line (Pit-Vaca-Dixon Line) running north and south through the County along the approximate center line of the County. In addition, the Cottonwood-Tracy main transmission line follows approximately the same route. Major transmission lines branch off the Pit-Vaca-Dixon line to service the Maxwell, Princeton, Colusa, Williams, Arbuckle, College City, Grimes and Stonyford areas, as well as the more sparsely populated rural areas. Electrical service to the entire County is adequate, and discussions with Pacific Gas and Electric Company personnel indicate that no major expansion of the system is anticipated, except to provide service to new areas as the demand arises.

Natural Gas Service

Following approximately the same route as the main electrical transmission line is the 36 inch California to Canada natural gas transmission line. This provides service to the communities which are located on the valley floor, through transmission lines ranging in size from 20 inches down to 3 inches. Gas service is currently not available to the foothill area in the western portion of the County. As with the electrical facilities, there is no major expansion of the natural gas distribution system anticipated. The possible exception to this is that the Century Ranch area may at some time in the not too distant future require natural gas service. Since Public Utility Commission regulations

forbid speculation by public utilities, it is not possible for the utility company to extend gas service to these areas before the demand warrants it. For this reason P.G. & E. has adopted a wait and see attitude toward the Century Ranch area. This area as well as new areas to be developed will undoubtedly require natural gas in the future.

In summary, telephone, electrical, and natural gas service to the various areas throughout the County is adequate for the needs of today, and there is little doubt that these facilities will be expanded as the need arises.



6. WILLIAMS PLANNING AREA WATER AND SEWER SYSTEMS

General Plan Element - Water System

The water well and water distribution systems are owned and operated by the City of Williams and provide service primarily to areas within the corporate limits. The majority of the existing distribution system was constructed in 1927 and consists of cast iron water mains, with later construction utilizing asbestos cement mains. The prevailing soil type in this area consists of adobe clay with pockets of a severe alkaline soil. This alkaline soil has the effect of rapidly deteriorating cast iron or steel water lines. In recent years, construction has been entirely of asbestos cement which is immune to this condition.

For many years, maintenance was rather casual, due to lack of funds and available skilled manpower. As a result, certain portions of the system are in rather poor condition. In addition, the downtown commercial area adjacent to Seventh Street and the industrial area adjacent to the railroad have never had adequate fire protection.

It will be noted on the plan that the water mains proposed to be replaced and added during the twenty year design period are only those required to provide adequate fire protection. While not specifically outlined on the map or in the estimate, it is strongly recommended that a capital improvements fund be established for periodic replacement of lines throughout the City as it becomes obvious that maintenance for a given line is prohibitive. There are presently about $4\frac{1}{2}$ miles of four inch and six inch water lines within the City, which are not shown as being replaced within the design period. If it is assumed that all these lines will be replaced within 30 years, it will be necessary to allocate approximately \$5500 annually in addition to the funds noted in the estimates.

The City currently maintains two wells and one 100,000 gallon elevated storage tank. The wells in the southeast area of the City were drilled and placed into operation in 1927. Since that time the pumping equipment and controls on well No. 1 were replaced. Shortly thereafter, this well became contaminated and was taken out of service. Well No. 2 continues to be satisfactory, however it is probable that the pumping equipment and controls have a limited useful life. Since the equipment from well No. 1 is in excellent condition and available for transfer to well No. 2, no costs were included for this item. Well No. 3, in the northern area of the City was put into operation in 1948, and all equipment is in excellent condition.

Long range plans for the water system consist of major work to be accomplished immediately as shown on the plans, together with proposed major expansion of the system within 20 years. The

total estimated cost of improvements to the system during the next 20 years, exclusive of the line replacement program recommended earlier is \$439,000.

Specific Plan Element - Water System

Proposed Immediate Improvements

In June, 1969, a bond issue in the amount of \$315,000 for the improvement of the water and sanitary sewer systems was authorized by the voters. The majority of the immediate improvements shown on the plan will be accomplished as soon as a satisfactory market can be obtained for the bonds.

In order to provide more adequate fire flow capacity and to correct a low pressure situation in the western area of the City, a new well is proposed to be drilled in the Venice Blvd. area. This, together with the existing wells and storage tank should provide adequate fire flow and service capacity for the 20 year design period. As shown on the attached map, an 8 inch loop is proposed which will provide adequate fire flows to the commercial and industrial areas of the City. The imminent construction of Interstate 5 Freeway (scheduled for early 1970) will have a marked effect on the commercial atmosphere of Williams. It is anticipated that the areas adjacent to the "E" Street interchange will develop rapidly and will require City utility services. The area adjacent to the Highway 20, Interstate 5 interchange will have no highway access, therefore utility service is not anticipated for this area.

The estimated costs of immediate improvements to the water system which will be constructed is as follows:

Acquire land, drill well, provide pump and related equipment.	\$ 22,000.00
Furnish & place 1400 L.F. 6" waterline.	\$ 8,500.00
Furnish & place 11,000 L.F. 8" waterline.	<u>\$ 77,000.00</u>
Sub Total	\$107,500.00
Construction Contingencies	\$ 10,500.00
Engineering & Inspection	\$ 12,000.00
Legal	\$ 4,000.00
Easements & Permits	<u>\$ 2,000.00</u>
Total	\$136,000.00

Proposed 10 year Improvements

Although major improvements to the water system are required immediately, the necessary improvements during the one to ten year period are by no means minor. These improvements consist of expanding the system in the northwest area of the City, and addition of a 6 inch main along Sixth Street to provide service to potential commercial property. The major line replacement anticipated during this period is in the alley west of Tenth Street, north of "E" Street. It is probable that line extension to the northwest area of the City will be accomplished primarily by private developers, however the cost of all line replacements and extensions within the existing system will be borne by the City.

The estimated cost of improvements proposed to be constructed during the 1 to 10 year period exclusive of systematic waterline replacement is:

Furnish & place 600 L.F. 4" waterline	\$ 3,500.00
Furnish & place 3800 L.F. 6" waterline	\$26,500.00
Furnish & place 1200 L.F. 8" waterline	<u>\$ 8,500.00</u>
Sub Total	\$38,500.00
Construction Contingencies	\$ 4,000.00
Engineering & Inspection	\$ 4,000.00
Legal	\$ 1,000.00
Easement & Permits	<u>\$ 500.00</u>
Total	\$48,000.00

Proposed 20 year Improvements

The City of Williams within 10 years will be bordered on the North, West and East by the Interstate Freeways 5 and 20. Because of this, major residential expansion will occur to the South. This area is currently agricultural and offers prime development characteristics, not the least of which is that the general fall of the land is from South to North which will facilitate sewer construction. This residential expansion will be due, in part to commercial and industrial expansion in the Eastern area of the City. Therefore both of these areas will require water service.

The residential expansion to the South will require the major grid water lines shown on the plan. In addition to these, of course, will be minor distribution lines, however these most likely

will be installed by private developers, and at any rate are beyond the scope of this report. The existing storage tank and wells if augmented by the aforementioned proposed well, will be adequate for the 10 to 20 year period.

The estimated expenditures during this period are as follows:

Furnish & place 5700 L.F. 6" waterline	\$ 37,000.00
Furnish & place 24000 L.F. 8" waterline	<u>\$168,000.00</u>
Sub Total	\$205,000.00
Construction Contingencies	\$ 20,000.00
Engineering	\$ 22,000.00
Legal	\$ 5,000.00
Easements & Permits	<u>\$ 3,000.00</u>
Total	\$255,000.00

General Plan Element - Sewer System

The sewage collection and treatment facilities are owned and operated by the City of Williams and provide service within the corporate limits. The sewage collection system consists primarily of vitrified clay sewer pipe which is for the most part adequate to serve todays needs. The existing outfall lines to the sewage treatment plant consist of a 12 inch vitrified clay sewer constructed in 1927, and a 15 inch concrete sewer constructed in 1948. Both these lines are laid to a grade of approximately 0.1 percent which does not yield self cleansing velocities and as a result creates undue maintenance problems. Additionally, the lines lie under irrigated farm lands, and as a result of poor joint condition, there exists a serious problem of infiltration of ground water. Due to the flat grade of these lines, the 15" concrete line has exhibited failures due to attack by hydrogen sulfide and is at present in a near state of collapse. The older line is generally in somewhat better condition, however is totally inadequate in size, and exhibits the joint failures mentioned above.

The existing sewage treatment facility consists of an Imhoff Tank which discharges directly into Salt Creek. This facility is totally inadequate for todays flows and requires constant maintenance to provide even a semblance of sewage treatment.

Long range plans for the Williams sewer system call for immediate sewage treatment plant and outfall sewer construction,

with improvement to the trunk and lateral systems taking place more or less uniformly over the next 20 years. The total estimated cost of improvements to be made to the system over the next 20 years is \$553,000.

Specific Plan Element - Sewer System

Proposed Immediate Improvements

As noted earlier, the City has pending the sale of \$315,000 worth of bonds for improvements to the sewer and water system. Of this amount \$210,000 is earmarked for sewer construction. In addition to this amount, the State of California, Division of Highways will make funds available to the City due to the fact that freeway construction will disrupt the Cities outfall sewer lines.

As shown on the map, the majority of the sewer work which requires immediate attention consists of a new outfall line to the proposed new sewage treatment facility. The remainder of the work consists of providing sewer service to the potential commercial area adjacent to the Interstate 5 Freeway.

The proposed sewage treatment facility improvements would consist of acquiring 30 acres of land and construction new headworks, together with one aerated lagoon and one oxidation pond. The quantity of land to be acquired will be adequate to provide for future expansion of the treatment facility. A breakdown of immediate expenses for sewer system improvement is as follows:

Land acquisition, treatment plant 30 Ac. @ \$650	\$ 19,500.00
Construct sewage treatment plant headworks pumps, etc.	\$ 20,000.00
Construct aerated lagoon and oxidation pond	\$ 35,000.00
Furnish & place 2300 L.F. 6" sanitary sewer	\$ 16,000.00
Furnish & place 900 L.F. 8" sanitary sewer	\$ 7,000.00
Construct sewage lift station	\$ 8,000.00
Furnish & place 3200 L.F. 15" sanitary sewer	<u>\$ 59,500.00</u>
Total	\$165,000.00
Construction Contingencies	\$ 16,000.00
Engineering & Inspection	\$ 18,000.00
Legal	\$ 5,000.00

Easements & Permits	\$ 3,000.00
Utility Relocation	<u>\$ 5,000.00</u>
Total	\$212,000.00

Proposed 10 year Improvements

The sewer system, as it will be subsequent to the proposed immediate improvements, will be basically adequate for at least 5 years. It is probable that the residential area in the north-west section of the City will continue to develop with sewer service being required. These improvements have been shown on the plan and estimate, however should development take place, the costs thereof would be borne by private developers.

As development within the core area and the area to the south-west continues, the 10 inch sewer in the alley between 6th and 7th Street will become inadequate insize. In order to alleviate this condition, and to provide for future expansion, this line will be replaced with a 12 inch sanitary sewer. It is probable that the area adjacent to existing Highway 20, in the westerly area of the City will continue to expand commercially. Should this take place, the existing 6 inch sewer will be replaced with an 8 inch sewer which will handle flows generated by future expansion. The estimated cost of improvements to be made within the 1 to 10 year time period is as follows:

Furnish & place 3300 L.F. 6" sanitary sewer	\$23,000.00
Furnish & place 2600 L.F. 8" sanitary sewer	\$20,000.00
Furnish & place 3000 L.F. 12" sanitary sewer	<u>\$33,000.00</u>
Sub Total	\$76,000.00
Construction Contingencies	\$ 8,000.00
Engineering & Inspection	\$ 8,000.00
Legal	\$ 1,000.00
Easements & Permits	\$ 1,000.00
Utility Relocation	<u>\$ 1,000.00</u>
Total	\$95,000.00

Proposed 20 year Improvements

The proposed improvements in the sanitary sewer system anticipated to occur within the 10 to 20 year time period will primarily take place in the same areas as the proposed 20 year water system improvements. These additions will consist of a trunk line network to the area south of the existing City, and to the commercial area to the east.

As additional area is served by the sewage collection system, expansion of the sewage treatment plant will become necessary. All the facilities which will be constructed immediately will remain in operation and one additional aerated lagoon, together with one additional oxidation pond will be constructed. The estimated cost of all 20 year improvements are as follows:

Construct additional aerated lagoon & oxidation pond	\$ 35,000.00
Furnish & place 2900 L.F. 6" sanitary sewer	\$ 20,000.00
Furnish & place 17650 L.F. 8" sanitary sewer	<u>\$141,000.00</u>
Sub Total	\$196,000.00
Construction Contingencies	\$ 20,000.00
Engineering & Inspection	\$ 21,000.00
Legal	\$ 5,000.00
Easements & Permits	\$ 3,000.00
Utility Relocation	<u>\$ 3,000.00</u>
Total	\$248,000.00

EXISTING WATER DISTRIBUTION SYSTEM OWNED & OPERATED BY
CITY OF WILLIAMS

EX STING

PROPOSED

4" DIA PIPE

6 DIA PIPE

8" O A P PE

WEL.

STORAGE TANK

----- PROPOSED INSTALLATION IMMEDIATE

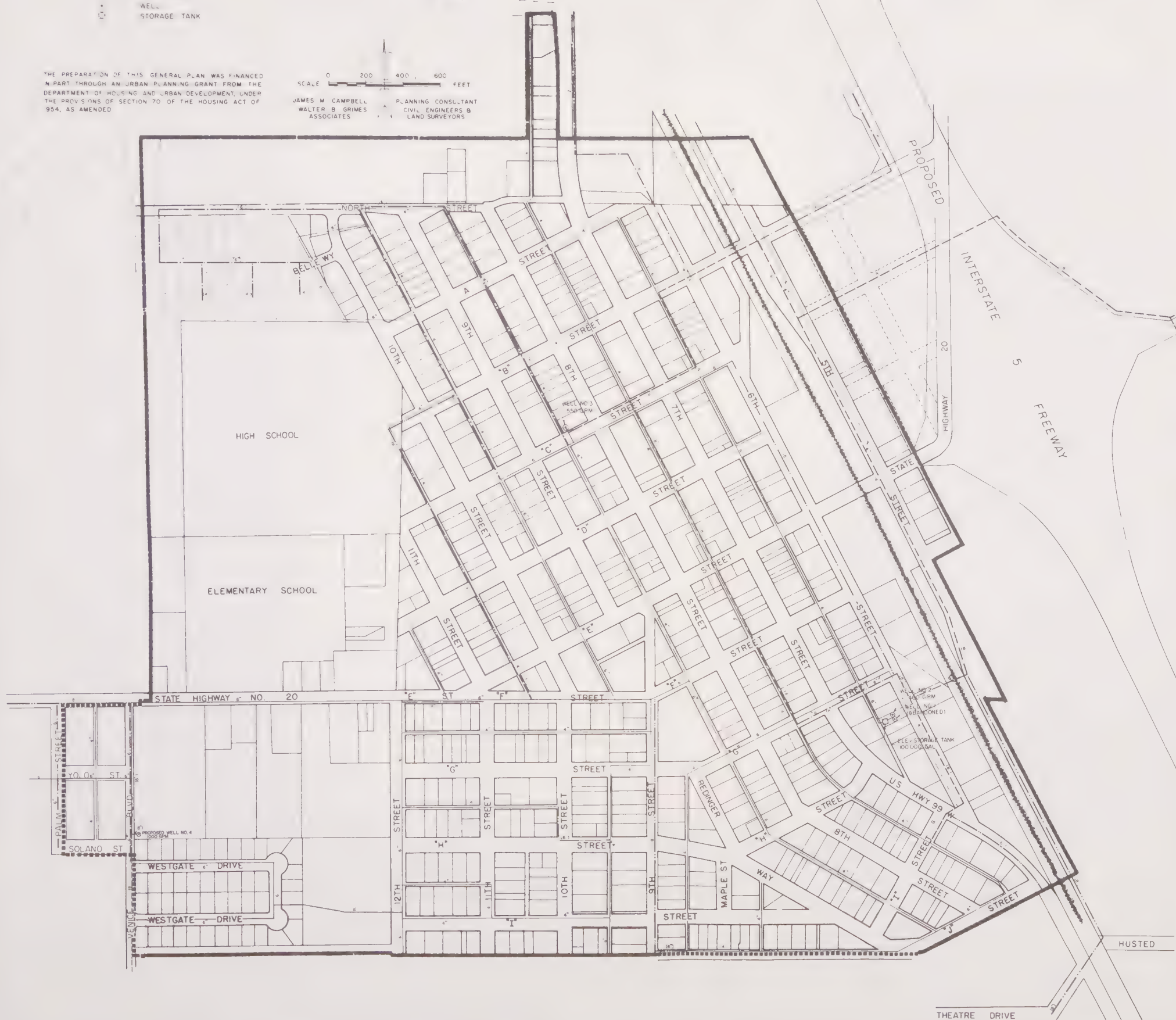
10 YEARS

20 YEARS

THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PROVISIONS OF SECTION 70 OF THE HOUSING ACT OF 1954, AS AMENDED.

0 200 400 600
SCALE FEET

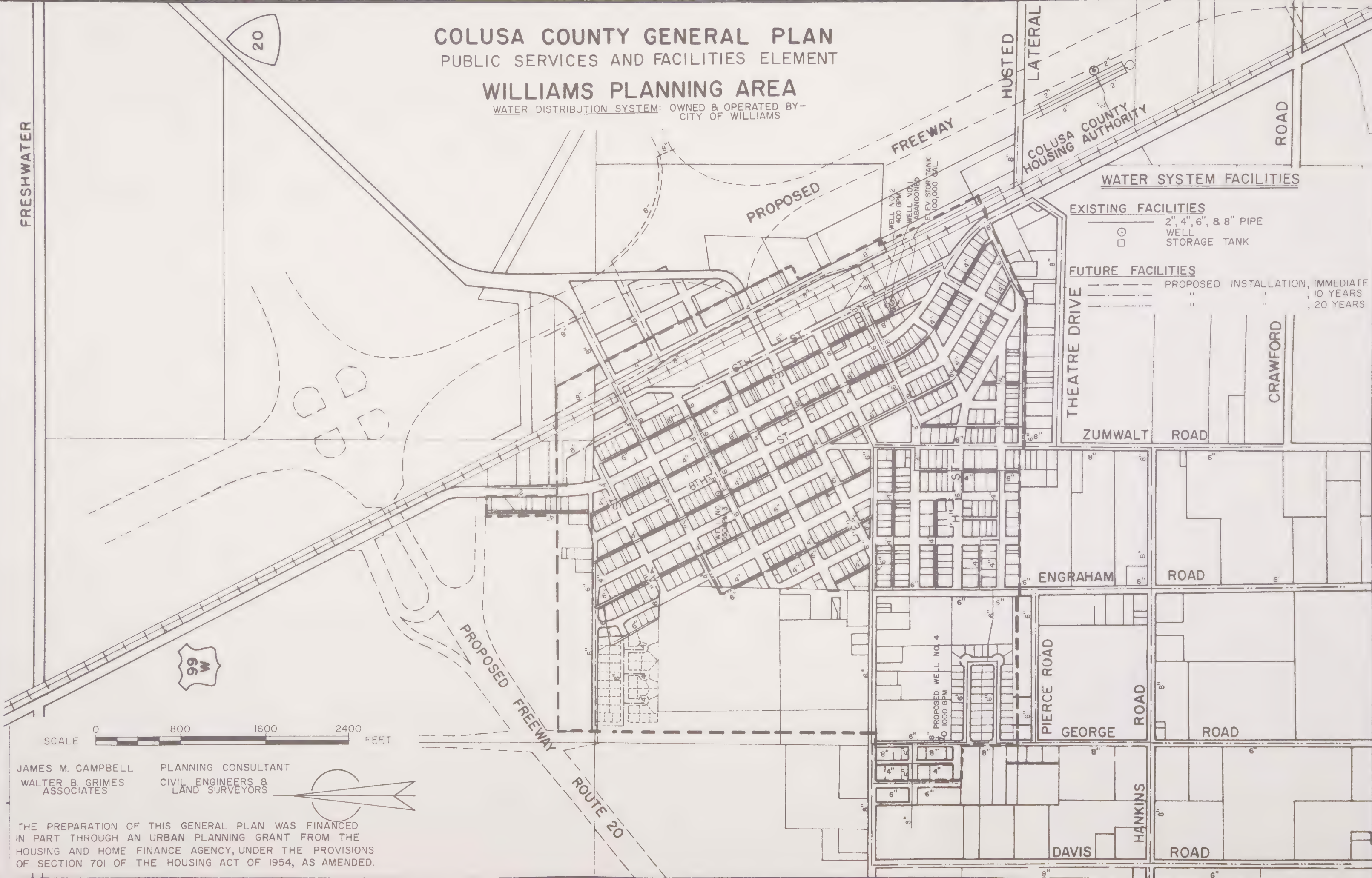
JAMES M CAMPBELL PLANNING CONSULTANT
WALTER B GRIMES CIVIL ENGINEERS &
ASSOCIATES LAND SURVEYORS



FRESHWATER

COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT WILLIAMS PLANNING AREA

WATER DISTRIBUTION SYSTEM: OWNED & OPERATED BY-
CITY OF WILLIAMS



WATER SYSTEM FACILITIES

EXISTING FACILITIES

- 2", 4", 6", & 8" PIPE
- WELL
- STORAGE TANK

FUTURE FACILITIES

- PROPOSED INSTALLATION, IMMEDIATE
- " " " 10 YEARS
- " " " 20 YEARS

JAMES M. CAMPBELL PLANNING CONSULTANT
WALTER B. GRIMES CIVIL ENGINEERS & LAND SURVEYORS
ASSOCIATES

THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED
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COLUSA COUNTY GENERAL PLAN

PUBLIC SERVICES AND FACILITIES ELEMENT

SEWER SYSTEM FACILITIES

CITY OF WILLIAMS

SEWAGE COLLECTION SYSTEM OWNED & OPERATED BY -
CITY OF WILLIAMS

EXISTING
 ——— EXISTING SEWER LINES
 ○ MANHOLES
 ● CLEANOUTS
 ■ LIFT STATION

PROPOSED
 - - - - - PROPOSED INSTALLATION IMMEDIATE
 - - - - - 10 YEARS
 - - - - - 20 YEARS

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SCALE 0 200 400 600 FEET

JAMES M. CAMPBELL PLANNING CONSULTANT
 WALTER B. GRIMES CIVIL ENGINEERS &
 ASSOCIATES LAND SURVEYORS

NOTE

SEE WILLIAMS AREA WIDE PLAN FOR ALIGNMENT OF OUTFALL LINE AND TREATMENT FACILITIES

EXISTING OUTFALL LINES TO BE ABANDONED

PROPOSED LIFT STA

INTERSTATE
 HIGHWAY NO. 20

FREWAY

HIGH SCHOOL

ELEMENTARY SCHOOL

STATE HIGHWAY NO. 20

U.S. HWY 99 W

HUSTED

THEATRE DRIVE

PIERCE ROAD

WESTGATE DRIVE

WESTGATE DRIVE

SOLANO ST

YOLLO ST

STATE HIGHWAY NO. 20

12TH STREET

11TH STREET

10TH STREET

9TH STREET

8TH STREET

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10TH STREET

9TH STREET

SEWAGE COLLECTION SYSTEM: OWNED & OPERATED BY-
CITY OF WILLIAMS

EXISTING OUTFALL LINES
TO BE ABANDONED

PROPOSED SEWAGE TREATMENT FACILITIES

0 800 1600 2400
SCALE FEET

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SEWER SYSTEM FACILITIES

EXISTING FACILITIES

EXISTING SEWER LINES
MANHOLES
CLEANOUTS
LIFT STATION

FUTURE FACILITIES

PROPOSED INSTALLATION, IMMEDIATE
" " , 10 YEARS
" " , 20 YEARS

PROPOSED

HUSTED

COLUSA COUNTY
HOUSING AUTHORITY

ROAD

DRIVE

THEATRE

ZUMWALT ROAD

ENGRAHAM

ROAD

PIERCE ROAD

L. GEORGE

HANKINS ROAD

DAVIS

ROAD

ROUTE 20

7. COLUSA PLANNING AREA WATER AND SEWER SYSTEM

General Plan Element - Water System

The City is currently served by 5 wells and 2 elevated storage tanks with a total storage capacity of 250,000 gallons. All facilities are owned and operated by the City of Colusa and primarily service areas within the corporate limits. No data is available regarding the exact age of the system, however the City has, over the years, adequately maintained and expanded the system so that today it has few major faults. The distribution system is characterized by a fairly well defined grid network which is constantly being expanded. Present fire protection in most areas is adequate, however further improvement and expansion is recommended.

Long range plans for this system consist of completing the main grid system, thereby improving fire protection throughout the City, and expansion of the system to provide domestic and industrial service and adequate fire protection to areas which are currently beyond the City limits. Water storage capacity is adequate for the foreseeable future, however long range plans do include installation of a new well and related equipment. This well will help to maintain proper pressures in the southern area of the City (and adjacent areas) as well as provide additional fire flow capacity to the industrial area adjacent to Will S. Green Avenue. Total estimated expenditures on the Colusa water system over the next 20 years are \$748,000.

Specific Plan Element - Water System

Proposed Immediate Improvements

The majority of the immediate improvements shown on the map are those required to complete the major grid system. This work consists of main line construction on Jay, Sioc, Third and Fifth Streets. A portion of this work is already budgeted, and in accordance with existing policy, work on the grid system will continue as funds are available until the system is completed. Completion of the main grid system will provide a major network of water lines which will provide excellent fire protection throughout the City.

The other major immediate expansion to the system consists of an 8 inch line from the Indian Oaks area (Navajo Ave., etc.) westward to Will S. Green Avenue. This will loop the existing system and provide additional fire flow capacity to the industrial complex adjacent to Will S. Green Avenue.

The area which lies easterly of Bridge Street and southerly of the Sacramento River is commonly referred to as Goads Extension, and currently has minimal water service although it lies partially

outside the City limits. Service to this area is provided by small lines which provide adequate domestic flows, but are inadequate to provide fire protection. Rather minor immediate work is contemplated in this area. The estimated cost of all immediate additions to the Colusa Water System is as follows:

Furnish & place 700 L.F. 6" waterline	\$ 4,500.00
Furnish & place 7500 L.F. 8" waterline	\$52,500.00
Furnish & place 800 L.F. 10" waterline	\$ 7,000.00
Furnish & place 900 L.F. 12" waterline	<u>\$ 9,000.00</u>
Sub Total	\$73,000.00
Construction Contingencies	\$ 7,000.00
Engineering & Inspection	\$ 8,000.00
Legal	\$ 1,500.00
Easements & Permits	<u>\$ 1,500.00</u>
Total	\$91,000.00

Proposed 10 Year Improvements

Major expansion of the water system is anticipated during the 1 to 10 year period. This will occur primarily in the Goads Extension area along presently improved streets and in the area south of the existing City. As development becomes more dense, the need for water service and the attendant fire protection will become more critical.

The most probable area for extensive residential development lies in the southerly portion of the City and adjacent to Wescott Road. Residential growth has already begun in this area, and the pattern will probably continue.

In addition to the above improvements, it is anticipated that another well will be required during this time period. A tentative location is shown on south 5th Street. This will be tied into the 5th Street grid and will provide more adequate fire flows to the residential area south of town, as well as the industrial area adjacent to Will S. Green Avenue. As shown on the estimate, approximately one hundred eighty five thousand dollars worth of improvements will be required during this period, however of that amount slightly more than half will probably be absorbed by private developers in the course of residential land development. The most southerly subdivision shown on the map is currently outside the City limits and is serviced by a privately owned mutual water system. As more

fully discussed later in this report, it is anticipated that this area will annex to the City within the one to ten year time period, and may be at that time be connected to the City water system.

The estimated cost of improvements in the Colusa area during the 1 to 10 year time period is:

Furnish & place 11700 L.F. 6" waterline	\$ 70,000.00
Furnish & place 5000 L.F. 8" waterline	\$ 35,000.00
Furnish & place 1000 L.F. 10" wateline	\$ 9,000.00
Furnish & place 900 L.F. 12" waterline	\$ 9,000.00
Acquire land, drill well, provide pump and related equipment	<u>\$ 25,000.00</u>
Sub Total	\$148,000.00
Construction Contingencies	\$ 15,000.00
Engineering & Inspection	\$ 16,000.00
Legal	\$ 3,000.00
Easements & Permits	<u>\$ 3,000.00</u>
Total	\$185,000.00

Proposed 20 year Improvements

The 20 year improvements will consist of further expansion and completion of the distribution systems within the Goads Extension area and the residential area south of town. As with earlier developments, it is felt that the majority of costs for these proposed expansions will be borne by private developers. The major improvements which are anticipated during this period of time consist of broadening of the grid system: This includes major water mains on 10th, 12th, and 14th Streets, as well as cross loops between these lines. This will have the affect of providing excellent fire protection to the industrial area adjacent to 14th Street and providing service to the area immediately east of this industrial section.

The other major expansion anticipated consists of providing fire protection to the area northeast of State Highway 20, which area will probably develop as commercial or industrial.

It will be noted on the map that a major loop has been provided around this area tieing back into the system at Carson and B Streets. It is, of course, not known at this time what

shape the development within the area will take, however the loop is necessary in order to provide the fire protection required by industrial properties.

As with the estimates for earlier development, undoubtedly some of the cost of 20 year improvements will be borne by private developers, however this becomes less true as major water main expansion takes place, since the City has historically absorbed much of the cost of this type of work. The estimated cost of the improvements to the Colusa water system within the 10 to 20 year period follows:

Furnish & place 22000 L.F. 6" waterline	\$132,000.00
Furnish & place 16600 L.F. 8" waterline	\$116,000.00
Furnish & place 14000 L.F. 10" waterline	\$119,000.00
Furnish & place 1400 L.F. 12" waterline	<u>\$ 14,000.00</u>
Sub Total	\$381,000.00
Construction Contingencies	\$ 38,000.00
Engineering & Inspection	\$ 42,000.00
Legal	\$ 6,000.00
Easements & Permits	<u>\$ 5,000.00</u>
Total	\$472,000.00

General Plan Element - Sewer System

The sewage collection and treatment facilities are owned and operated by the City of Colusa, and presently service the area within the corporate limits. The majority of the existing collection system was constructed in the early 1900's and consists of vitrified clay sanitary sewers. Since that time an aggressive program of maintenance and replacement has taken place with the result that the majority of the system is in generally good condition.

Two major additions were made to the collection system within the last year. These consist of a line extension along Highway 20 southeast from Wescott Road to Moon Bend Road, and construction of approximately one half mile of 18 inch trunk sewer from Will S. Green west and south to the sewage treatment plant.

The existing treatment plant was constructed in 1948 and consists of headworks (lift station), a circular clarifier and

digester with sludge drying beds. The effluent from the treatment plant is carried in a pipe southwesterly to a point of discharge into Powell Slough, which runs through the Colusa Wildlife Refuge. The existing clarifier is inadequate to handle periods of peak flow with the result that raw sewage sometimes bypasses the plant. The City has been advised by the Regional Water Quality Control Board that the treatment plant effluent does not meet minimum requirements. In addition, the outfall sewer, which is constructed of concrete, is virtually unuseable due to hydrogen sulfide attack.

Long range plans for the system consist of a stage construction replacement of the sewage treatment facility, expansion of the trunk sewer system to service areas expected to request service in the future and replacement of older sewers which most certainly will exhibit joint and other type failures as time progresses. The total estimated amount to be spent on the system during the next twenty years is \$840,000.

Specific Plan Element - Sanitary Sewer System

Proposed Immediate Improvements

As stated earlier, the majority of the sewage collection system, while old, is in good condition. One exception is the 12 inch concrete sewer through the County Fairgrounds area. This is a major trunk line, is inadequate in size, and due to hydrogen sulfide attack, is structurally unsound. This line will be replaced with a 15 inch vitrified clay sewer, which will be adequate in size for projected growth.

Proposed alterations to the sewage treatment facility will be accomplished in two stages, the first to be constructed immediately, the second within 10 years.

The first stage of the sewage treatment facility upgrading consists of acquiring property, construction of a new lift station and secondary treatment lagoons consisting of oxidation ponds. The final location for this facility has not been chosen yet, however it will be located southwest of the existing plant at such a location that potential commercial property adjacent to the proposed Highway 20 Freeway will not be interfered with, and such that construction costs of outfall sewer and other facilities are held to a minimum. The addition of this secondary treatment facility will bring the quality of the effluent up to a minimum satisfactory quality and will allow the orderly transformation to the second stage of construction. The land which will be acquired for the treatment plant alterations will be adequate to provide for future expansion as outlined in the proposed 10 year improvement plan. Likewise, all proposed pumping and piping facilities will be designed for future expansion.

The estimated costs of immediate improvements to the system are:

Land acquisition - treatment plant, 30 Ac. @ \$1000	\$ 30,000.00
Construct headworks and lift station	\$ 4,000.00
Furnish & place 750 L.F. outfall sewer	\$ 11,450.00
Construct secondary treatment lagoons	\$ 39,000.00
Construct outfall ditch to Powell Slough	<u>\$ 18,000.00</u>
Sub Total	\$102,450.00
Construction Contingencies	\$ 9,550.00
Engineering & Inspection	<u>\$ 10,000.00</u>
Total	\$122,000.00

Proposed 10 year Improvements

As noted earlier, the second phase of the sewage treatment facility reconstruction will occur during this period. The work will consist of abandoning the existing primary treatment facility (by this time 30 years old), piping untreated sewage to the site of the previously constructed oxidation ponds, and into two aerated lagoons to be constructed. At this time it would be desirable to replace the previously constructed effluent ditch which runs to Powell Slough with a pipeline. This would decrease annual costs of maintenance, and is shown on the attached plan and the estimate.

Experience in this area indicates that where inexpensive land is available, the aerated lagoon-oxidation pond type of treatment facility will provide a very high quality effluent at the least possible annual cost.

Other additions to the system consist of partial sewerage of the Goads Extension area and the southerly area adjacent to Wescott Road.

The most southerly subdivision shown on the map is currently outside the City and is serviced by private septic tanks. This is a high grade development and will probably require sewerage during the 1 to 10 year period. As shown on the estimate, major expansion of the existing system will be required within 10 years. It is probable that the majority of this cost will be borne by private developers as subdivisions are brought into the City,

however the costs shown are for the total amount of work to be accomplished.

The estimate for the 1 to 10 year period is:

Construct aerated lagoons primary sewage treatment	\$ 38,120.00
Furnish & place 2400 L.F. 18" outfall sewer	\$ 38,000.00
Furnish & place 14700 L.F. 6" sanitary sewer	\$103,000.00
Furnish & place 7000 L.F. 8" sanitary sewer	\$ 56,000.00
Construct sewage lift station	<u>\$ 5,000.00</u>
Sub Total	\$240,120.00
Construction Contingencies	\$ 24,000.00
Engineering & Inspection	\$ 26,500.00
Legal	\$ 5,000.00
Easements & Permits	\$ 2,500.00
Utility Relocation	<u>\$ 5,000.00</u>
Total	\$303,000.00

Proposed 20 year Improvements

During the 10 to 20 year period, the pattern which has been previously described is expected to continue, that is, residential development in Goads Extension and the area adjacent to Wescott Road. It is probable that the partially developed industrial area along 14th Street will expand and require adequate sewerage. The trunk line proposed for this area will also service the extreme southwest portion of the existing City which will develop residentially.

Discussions with city personnel indicate that the existing sewers north of Jay Street are the oldest within the City. By the end of the design period, these will all be replaced. Replacement of these lines, together with anticipated 20 year expansion comprise a very large capital improvement of which the majority must be borne by the City.

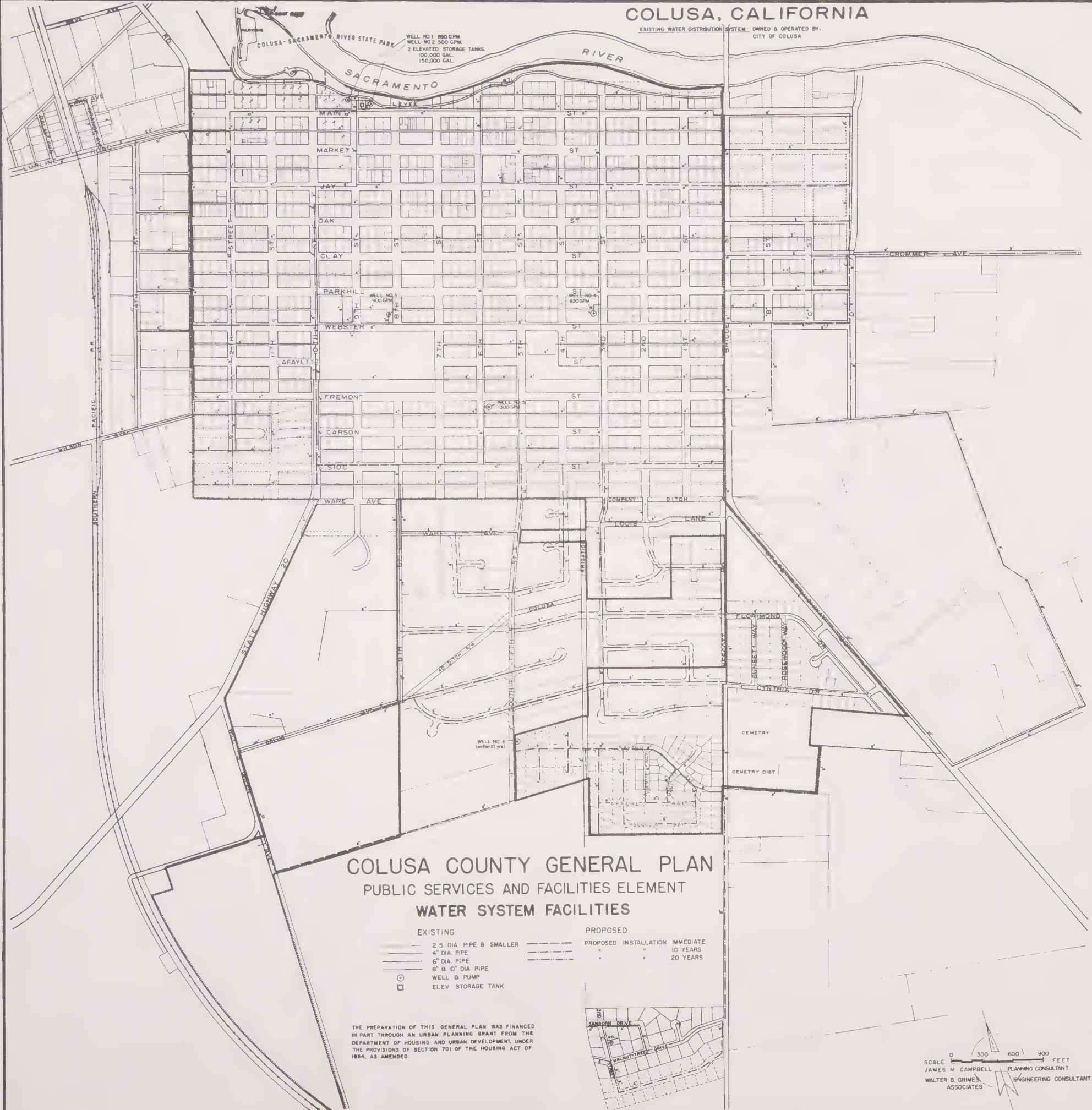
The estimate of costs for this period is as follows:

Furnish & place 32,500 L.F. 6" sanitary sewer	\$228,000.00
---	--------------

Furnish & place 10,500 L.F. 8" sanitary sewer	\$ 84,000.00
Furnish & place 900 L.F. 10" sanitary sewer	\$ 9,000.00
Construct sewage lift station	<u>\$ 10,000.00</u>
Sub Total	\$331,000.00
Construction Contingencies	\$ 33,000.00
Engineering & Inspection	\$ 36,000.00
Legal	\$ 8,000.00
Easements & Permits	\$ 3,000.00
Utility Relocation	<u>\$ 6,000.00</u>
Total	\$417,000.00

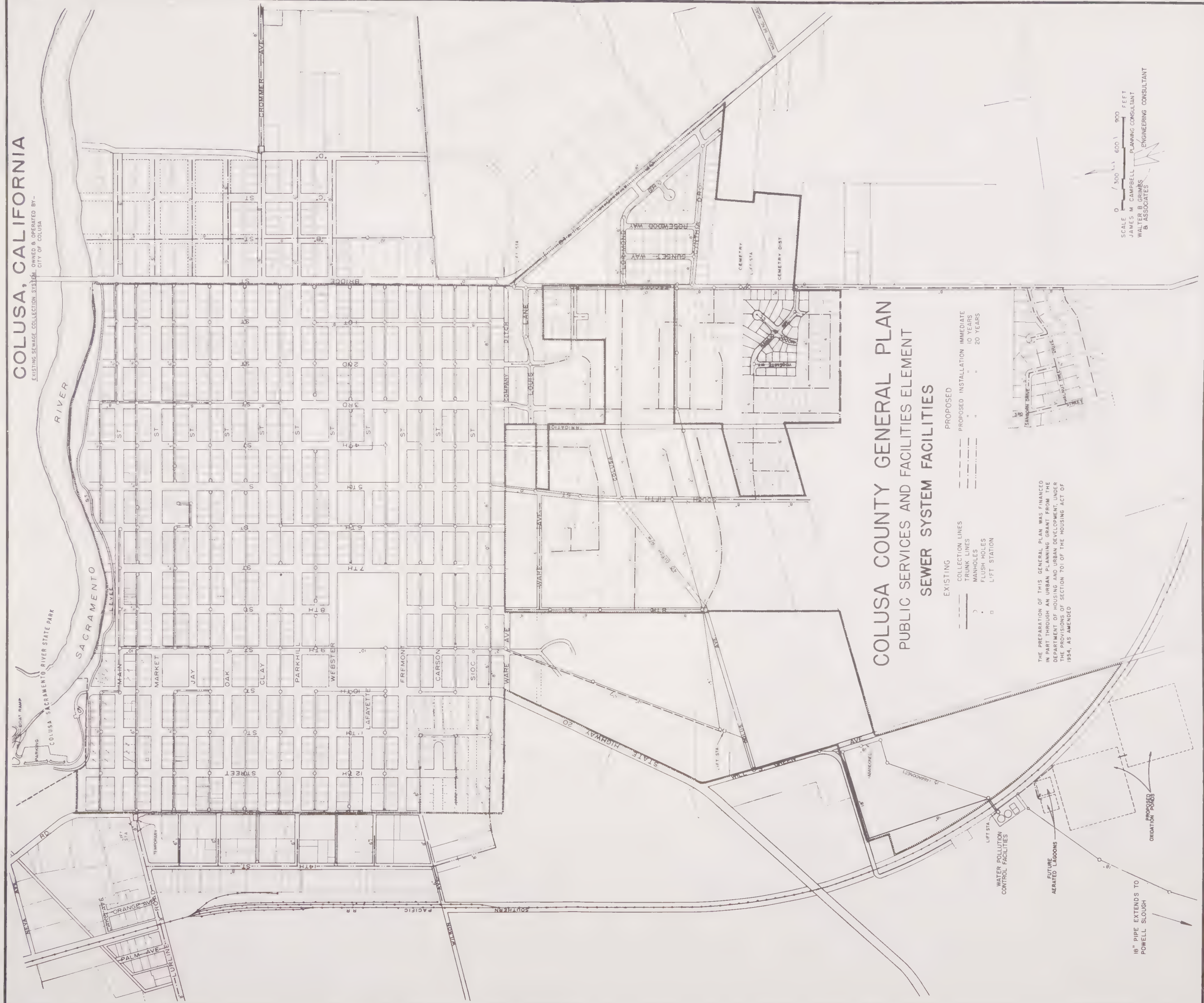
COLUSA, CALIFORNIA

EXISTING WATER DISTRIBUTION SYSTEM OWNED & OPERATED BY:
CITY OF COLUSA



COLUSA, CALIFORNIA

EXISTING SEWAGE COLLECTION SYSTEM OWNED & OPERATED BY -
CITY OF COLUSA



COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT SEWER SYSTEM FACILITIES

- | | |
|------------------|-----------------------|
| EXISTING | PROPOSED |
| COLLECTION LINES | PROPOSED INSTALLATION |
| TRUNK LINES | IMMEDIATE |
| MANHOLES | 10 YEARS |
| FLUSH HOLES | 20 YEARS |
| LIFT STATION | |

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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER
THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF
1954, AS AMENDED

SCALE 0 / 300 600 900 FEET
JAMES M. CAMPBELL PLANNING CONSULTANT
WALTER B. GRIMES & ASSOCIATES ENGINEERING CONSULTANT

18" PIPE EXTENDS TO
POWELL SLOUGH

8. ARBUCKLE PLANNING AREA WATER AND SEWER FACILITIES

General Plan Element Water System

The water well and distribution system are owned and operated by the Arbuckle Public Utility District and presently serve areas within the district boundaries. The district currently operates three wells which are properly spaced within the area and which have a total pumping capacity of 3,150 gallons per minute. Each well has a pressure tank at the site with the total pressure tank capacity being 14,500 gallons. Two of the three wells are equipped with auxiliary power plants for use in the event of electrical power failure.

The present distribution system is characterized by a fairly well defined grid system with adequate sized main lines such that fire protection and service throughout most of the area are adequate. The district has established a policy of capital improvements and maintenance which results in a well run, well maintained water system. As shown on the plans the only immediate improvements which are proposed are those which will strengthen the grid system and provide better fire protection to various areas within the district, the most important being in the eastern portion of the community.

Long range plans for the water system consist of further looping of the grid water mains and expansion to service areas which are expected to become populated during the study period. Total expenditures over the next 20 year period are \$144,000.

Specific Plan Element - Water System

Proposed Immediate Improvements

The system of wells, pressure tanks and power plants currently in operation will be adequate for today's use and for the 20 year study period. Accordingly, no additions or revisions to the well system are anticipated. Immediate improvements to the distribution system include a six inch main along First Street in the eastern portion of the community together with ties to the existing main in the alley west of First Street. Also proposed is a 6 inch main running southerly from Laurel in the alley east of Fourth Street, thence easterly along Hall Street and southerly in Third Street to a tie with the existing 8 inch main in Olive Street. These improvements will provide excellent fire flow capacity and pressures in this area of the community. There are currently several water lines interconnected and running from well number 2 easterly along Lucas Street. It is proposed to replace these with a 6 inch main tying into the

existing mains at Seventh Street and Putnam Street.

There currently exists a populated area outside the district boundaries to the west of Bradford Street. This area formerly served as a World War II detention camp and is currently operated privately as a farm labor camp. The area is serviced by a private water system which does not provide adequate fire protection. There is some question as to whether the cost of water main extension into this area is justified, however since this land probably is not being put to its highest and best use, and because there is an established street system within the area, the extension of the water system is shown as an immediate improvement. Estimated cost of improvements to be made to the system immediately are as follows:

Furnish & place 5600 L.F. 6" waterline	\$34,000.00
Construction Contingencies	\$ 3,000.00
Engineering & Inspection	\$ 4,000.00
Legal	\$ 1,000.00
Easements & Permits	<u>\$ 1,000.00</u>
Total	\$43,000.00

Proposed 10 year Improvements

Due to the present condition of the water system together with the improvements which are immediately proposed, very minor additions to the system will be required in the 1 to 10 year period. The area adjacent to old Highway 99W which lies north of Gail Avenue is currently serviced by a 2 inch water main running north from Gail Avenue west of old Highway 99W. This line provides adequate domestic water service, however it is totally inadequate for fire protection. It is felt that this area will in the future assume some importance as a commercial development, therefor a 6 inch line is shown as servicing this area and connecting to the existing 10 inch main at the north Interstate 5 Freeway interchange. The estimated cost of this improvement to the system is as follows:

Furnish & place 1500 L.F. 6" waterline	\$ 9,000.00
Construction Contingencies	\$ 1,000.00
Engineering & Inspection	\$ 1,000.00
Legal, Easements & Permits	<u>\$ 1,000.00</u>
Total	\$12,000.00

Proposed 20 year Improvements

The water system as it will exist in the 10 to 20 year time period will be adequate in capacity and condition to service the area within the present district boundaries. The additions to the system anticipated during this time period consist entirely of expansion to service areas outside the present district boundaries. The present trend of residential growth is in a southwesterly direction. It is felt that this trend will continue and the area between Meyers Avenue and Hillgate Road west of Tenth Street will become a prime residential area. Secondary residential growth is anticipated in the area between Gail and Garrett Avenues west of the present district boundaries. Accordingly a major loop has been shown around these areas. It is probable that should growth occur as anticipated, a major portion of the distribution lines within these two areas will be provided by private developers. The other major expansion of the system consists of service to the area lying between Wood Road and the railroad tracks north of Laurel Street. There will probably be an industrial belt adjacent to the railroad with the possibility of some residential growth south of, and adjacent to the existing cemetery. The estimated cost of improvements during this period are as follows:

Furnish & place 6800 L.F. 6" waterline	\$44,500.00
Furnish & place 3000 L.F. 10" waterline	<u>\$26,000.00</u>
Sub Total	\$70,500.00
Construction Contingencies	\$ 7,000.00
Engineering & Inspection	\$ 7,500.00
Legal	\$ 2,000.00
Easements & Permits	<u>\$ 2,000.00</u>
Total	\$89,000.00

General Plan Element - Sewer System

The existing sewage collection and treatment systems are owned and operated by the Arbuckle Public Utility District and presently service areas within the district boundaries. As with the water system the sewage collection system appears to be adequate in size and well maintained. The sewage treatment plant also is well maintained and operates quite satisfactorily. The plant consist of a clarifier and digester providing primary treatment with secondary treatment being accomplished in three

oxidation ponds which are adjacent to Salt Creek. The only problem which was observed at the treatment plant was the fact that the existing ground in the oxidation ponds exhibits a very high percolation rate, such that it is not possible to maintain any water in the ponds, and as a result the oxidation ponds are rather odorous and unsightly.

Long range plans for the sewage collection and treatment systems consist of minor modifications at the sewage treatment plant and expansion of the collection system to provide service to areas currently outside the district boundaries. The total expenditure anticipated within the design period is \$182,000.

Specific Plan Element - Sewer System

Proposed Immediate Improvements

The sewage treatment plant, while generally satisfactory in operation does exhibit the problem of percolation out of the oxidation ponds. This situation does not provide for proper sewage treatment, and there is some possibility of ground water pollution from this source. Accordingly, it is recommended that at least one of the existing three oxidation ponds be lined in order to maintain a proper water level which will promote algae growth and provide adequate detention time within the ponds. There are several methods by which this may be accomplished including asphalt lining, concrete or blown mortar lining, or lining with a fine grained, dense, clay soil. A firm recommendation as to the type of lining to be accomplished is beyond the scope of this report, however it will be noted that the estimate for immediate improvements includes an item for the accomplishment of this work.

An analysis of the area west of Bradford Street and north of Meyers Avenue was given in the water element of this report. This area currently has a private sewage collection system which discharges into the field north of the labor camp. This discharge of raw or partially treated sewage definitely constitutes a health hazard to residents in the area, and should be corrected immediately. Therefore it is proposed to construct a sewage collector line to service this area, with a temporary connection being made to the existing collection system at Bradford Street north of Nelson Avenue. As the sewage collection system for the total area is expanded in the future, this temporary connection will be abandoned and the sewage will be carried northward to a line proposed to be constructed in Gail Avenue. The estimated cost of construction proposed immediately is as follows:

Furnish & place 1300 L.F. 6" sanitary sewer	\$ 9,000.00
Furnish & place 200 L.F. 8" sanitary sewer	\$ 2,000.00

Furnish & place oxidation pond lining	<u>\$25,000.00</u>
Sub Total	\$36,000.00
Construction Contingencies	\$ 4,000.00
Engineering & Inspection	\$ 4,000.00
Easements, Permits & Legal	\$ 1,000.00
Utility Relocation	<u>\$ 1,000.00</u>
Total	\$46,000.00

Proposed 10 year Improvements

Due to the good condition of the existing collection system, improvements during the 1 to 10 year period are relatively minor. The anticipated improvements consist only of expansion of the existing systems. It is proposed to construct a 10 inch sanitary sewer down Midway Avenue from the end of the existing line southerly to Gail Avenue. The area which lies between Putnam Way and Midway Avenue in this locality has commercial potential during this time period, and will be serviced by the proposed line. The estimated cost of 10 year improvements is as follows:

Furnish & place 1400 L.F. 6" sanitary sewer	\$10,000.00
Construction Contingencies	\$ 1,000.00
Engineering & Inspection	\$ 1,000.00
Utility Relocation, Easements, Permits & Legal	<u>\$ 1,000.00</u>
Total	\$13,000.00

Proposed 20 year Improvements

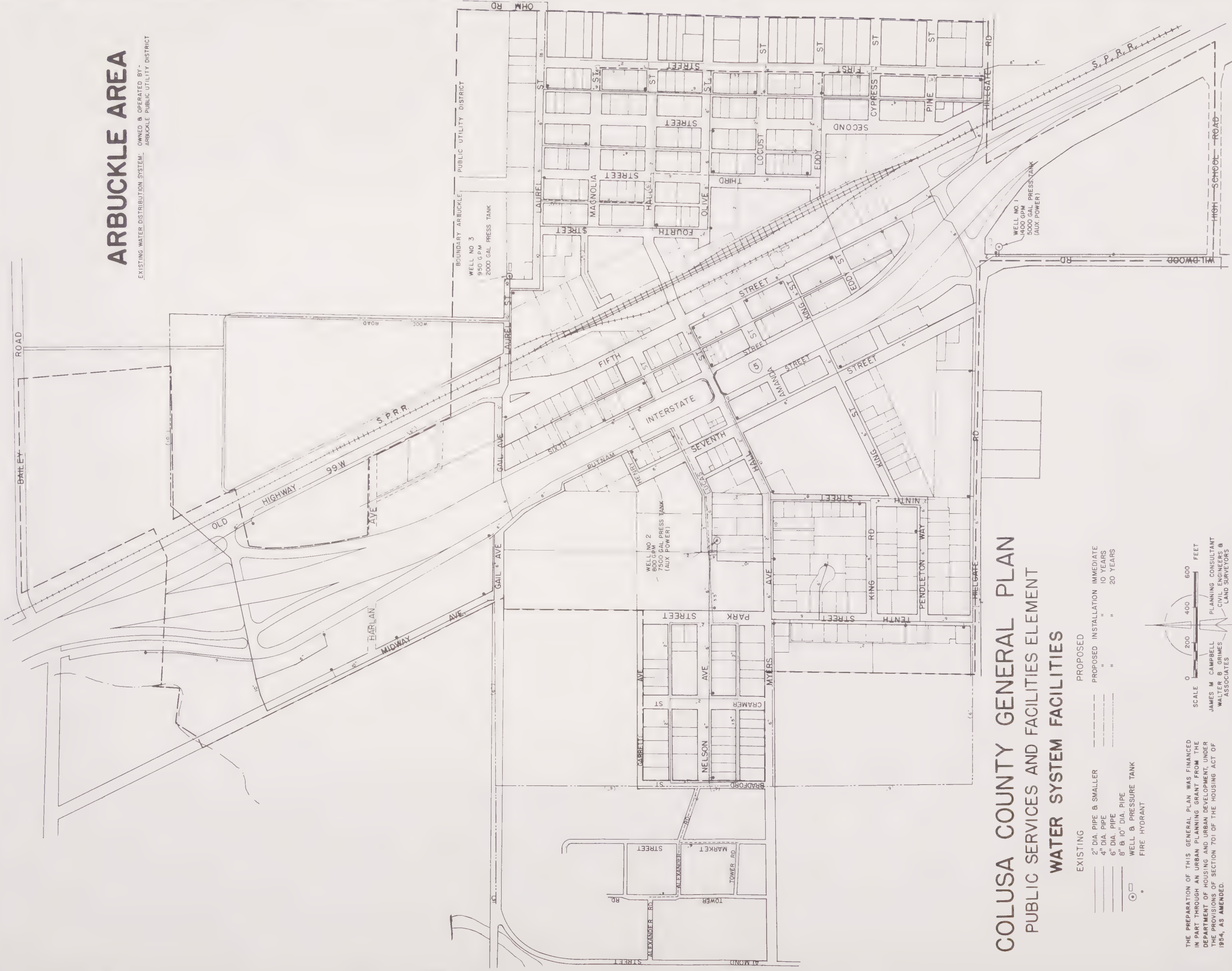
The 20 year improvements proposed include further expansion of the system to service the areas which have been previously described in the water element of this report. These consist of the area outside the district boundaries to the west, south of Meyers Avenue, and the area north of Garrett Avenue together with the area in the northeastern portion of the district adjacent to Wood Road. The only other modifications to the collection system consist of replacement of the main trunk sewer to the sewage treatment plant with a 12 inch sanitary sewer. This will adequately carry anticipated flows in the foreseeable future. In addition to the above improvements it is probable that during the ten to twenty year time period flows to the sewage treatment plant will

increase and require that the remaining two oxidation ponds be sealed in order to provide for adequate detention time before discharging the plant effluent into Salt Creek. The estimated cost of improvements during this time period is:

Furnish & place 1500 L.F. 6" sanitary sewer	\$ 11,000.00
Furnish & place 3500 L.F. 8" sanitary sewer	\$ 28,000.00
Furnish & place 850 L.F. 12" sanitary sewer	\$ 9,000.00
Furnish & place oxidation pond lining	<u>\$ 50,000.00</u>
Sub Total	\$ 98,000.00
Construction Contingencies	\$ 10,000.00
Engineering & Inspection	\$ 11,000.00
Easements & Permits	\$ 2,000.00
Utility Relocation & Legal	<u>\$ 2,000.00</u>
Total	\$123,000.00

ARBUCKLE AREA

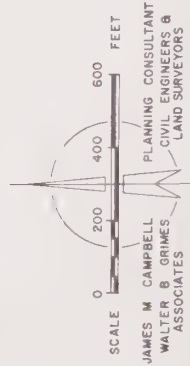
EXISTING WATER DISTRIBUTION SYSTEM. OWNED & OPERATED BY-
ARBUCKLE PUBLIC UTILITY DISTRICT

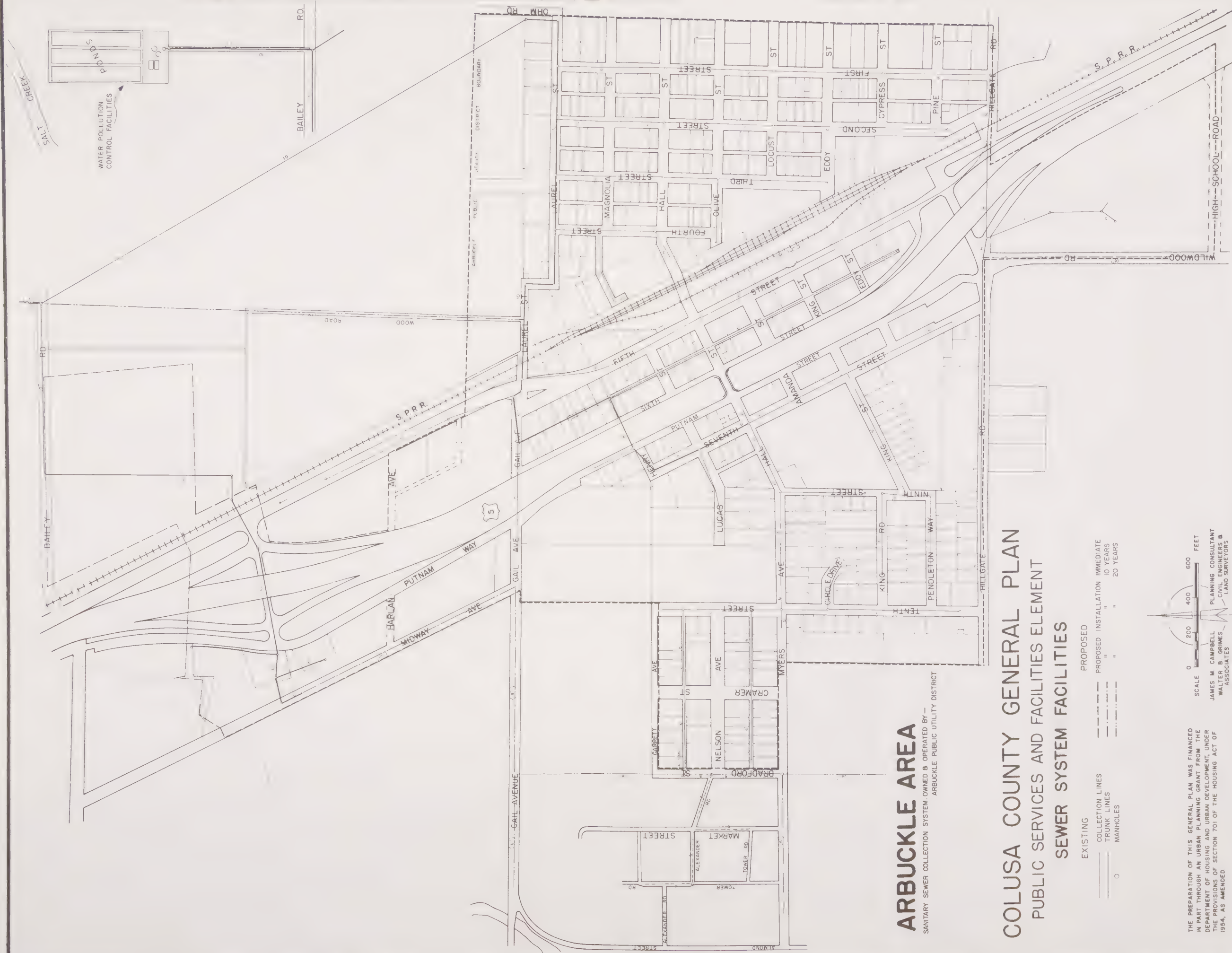


COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT WATER SYSTEM FACILITIES

EXISTING	PROPOSED	PROPOSED INSTALLATION	IMMEDIATE
2" DIA. PIPE & SMALLER	---	---	---
4" DIA. PIPE	---	---	---
6" DIA. PIPE	---	---	---
8" & 10" DIA. PIPE	---	---	---
WELL & PRESSURE TANK	---	---	---
FIRE HYDRANT	---	---	---

THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED
IN PART THROUGH AN URBAN PLANNING GRANT FROM THE
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT UNDER
THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF
1954, AS AMENDED.





ARBUCKLE AREA

SANITARY SEWER COLLECTION SYSTEM OWNED & OPERATED BY —
ARBUCKLE PUBLIC UTILITY DISTRICT

COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT SEWER SYSTEM FACILITIES

- | | |
|------------------|---------------------------------|
| EXISTING | PROPOSED |
| COLLECTION LINES | PROPOSED INSTALLATION IMMEDIATE |
| TRUNK LINES | 10 YEARS |
| MANHOLES | 20 YEARS |

THE PREPARATION OF THIS GENERAL PLAN WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

SCALE 0 200 400 600 FEET

JAMES M. CAMPBELL
WALTER B. ORMES
LAND SURVEYORS

PLANNING CONSULTANT
CIVIL ENGINEERS &
LAND SURVEYORS

9. COLLEGE CITY PLANNING AREA WATER AND SEWER FACILITIES

General Plan Element - Water System

Water service to residences and business establishments within the College City area is currently by private well. College City is a small agricultural community located three miles east of Arbuckle which was founded in 1874. For a time Pierce Chirstain College existed at this location and was famous for scientific curriculum offered to early settlers in the northern California area. The college has long since disappeared and with it the potential for rapid growth. As with most agricultural settlements, the growth in this area will be slow and steady.

Long range plans for this area consist of establishment of a water well and distribution system throughout the existing populated area with expansion to areas which would be expected to expand thereafter. The total expenditure anticipated is \$181,000.

Specific Plan Element - Water System

Immediate Improvements

As previously noted, there currently is no community water system in College City. It is questionable whether or not the immediate construction of a major system of wells and distribution lines would be economically feasible at this time, however for the sake of this report, immediate construction of these improvements is shown on the plan. The improvements will consist of a single water well with a 1,000 gallon per minute capacity and a five thousand gallon pressure tank, feeding a distribution system which will service the current residential, commercial and public areas, and provide adequate fire protection. Specifically this consists of a network of 8 inch, 6 inch, and 4 inch water lines located in the existing improved streets. The estimated cost of this system is as follows:

Furnish & place 3250 L.F. 4" waterline	\$ 18,000.00
Furnish & place 7400 L.F. 6" waterline	\$ 45,000.00
Furnish & place 1500 L.F. 8" waterline	\$ 11,000.00
Drill well & provide pumping equipment	<u>\$ 25,000.00</u>
Sub Total	\$ 99,000.00
Construction Contingencies	\$ 10,000.00

Engineering & Inspection	\$ 11,000.00
Legal	\$ 3,000.00
Easements & Permits	<u>\$ 2,000.00</u>
Total	\$125,000.00

Proposed 10 year Improvements

Since the proposed water distribution system is shown as being immediately constructed, improvements to be added to this system during the 1 to 10 year period will be very minor in nature. These improvements consist of providing service to the Fourth Street area on the north side of the community and the Twelfth Street area to the south. It is felt that these are the areas which have greatest growth potential at this time. Estimated costs of improvements during this period are:

Furnish & place 1100 L.F. 4" waterline	\$ 6,000.00
Furnish & place 1100 L.F. 6" waterline	<u>\$ 7,000.00</u>
Sub Total	\$13,000.00
Construction Contingencies	\$ 1,500.00
Engineering & Inspection	\$ 1,500.00
Legal, Easements & Permits	<u>\$ 1,000.00</u>
Total	\$17,000.00

Proposed 20 year Improvements

The water well and pressure tank proposed for immediate construction will be adequate for the design period. Improvements to the system anticipated during the 10 to 20 year period again consist of expansion to accommodate possible residential growth. It is felt that during this period growth may occur to the area west of the existing community. Specifically the improvements consist of a 6 inch grid network servicing the Twelfth and Elm Streets area. The other major expansion of the system will take place to the north along the Main Street area, which area is currently exhibiting commercial and industrial growth and within the next twenty years will require water service. The estimated cost of improvements during this period is:

Furnish & place 1000 L.F. 4" waterline	\$ 6,000.00
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Furnish & place 4100 L.F. 6" waterline	<u>\$25,000.00</u>
Sub Total	\$31,000.00
Construction Contingencies	\$ 3,000.00
Engineering & Inspection	\$ 3,000.00
Legal	\$ 1,000.00
Easements & Permits	<u>\$ 1,000.00</u>
Total	\$39,000.00

General Plan Element - Sewer System

There are currently no public sanitary sewer collection or treatment facilities within the College City community. Sewage disposal is accomplished by private septic tanks. According to the University of California College of Agricultural Experiment Station Publication, "Soils of Colusa County", the soil type in the College City area consists of Cortina Loam, and Zamora Loam. These soils exhibit excellent surface and subsurface drainage characteristics, and as such are quite satisfactory for the operation of septic tanks and leach fields. For this reason any immediate problems which are evident in this area are due to either faulty septic tank construction or inadequate leach fields. As the area continues to develop, construction of a sewage collection and treatment system will become necessary.

Long range plans consist of the construction of these facilities with expansion during the 20 year design period. The total estimated cost of all improvements during this period is \$215,500.

Specific Plan Elements - Sewer System

Proposed Immediate Improvements

As with the construction of a water system, the construction of a sewer system within this area will require a sizable capital expenditure with questionable benefits being derived at this time. For clarities sake the construction of a sewage collection and treatment facility are shown as occurring immediately. The collection system consists of a series of 6 inch lateral and trunk lines flowing generally northward into an 8 inch trunk line, with a 10 inch major trunk line flowing to the north along Main Street. It is anticipated that the raw sewage will be carried northward to Tule Road and easterly, with a sewage treatment facility being constructed between the College City Road

and the Colusa Main Drainage Canal which is located approximately one and one half miles east of the College City Road. The effluent from the sewage treatment facility would be carried eastward into the main drain canal. The sewage treatment facility will consist of oxidation ponds which will provide adequate treatment and detention for the flows anticipated. Estimated costs of sewage treatment and collection facilities for this period are:

Furnish & place 1200 L.F. 6" sanitary sewer	\$ 84,000.00
Furnish & place 700 L.F. 8" sanitary sewer	\$ 6,000.00
Furnish & place 3000 L.F. 10" sanitary sewer	\$ 30,000.00
Property acquisition, sewage treatment facility 10 acres @ \$600.00	\$ 6,000.00
Construction of oxidation ponds	\$ 9,000.00
Construction of lift station and headworks	\$ 10,000.00
Construction of outfall drain	<u>\$ 3,000.00</u>
Sub Total	\$148,500.00
Construction Contingencies	\$ 15,000.00
Engineering & Inspection	\$ 16,000.00
Legal	\$ 4,000.00
Easements & Permits	<u>\$ 3,000.00</u>
Total	\$186,500.00

Proposed 10 year Improvements

Improvements during this period consist of relatively minor expansion of the previously constructed system with a total cost of \$8,000.

Proposed 20 year Improvements

As previously noted it is anticipated that the residential growth for this area will be in a westerly direction. Therefore, 20 year improvements are shown as a collection system in the Elm Street area between 6th and 12th Streets. In addition, a small area south of 12th Street on an extension of Jackson and College Streets is shown as being served. The treatment facilities will

be adequate to handle flows during the design period. Estimated costs of improvements during this period are as follows:

Furnish & place 2400 L.F. 6" sanitary sewer	\$17,000.00
Construction Contingencies	\$ 2,000.00
Engineering & Inspection	\$ 2,000.00
Legal, Easements & Permits	<u>\$ 1,000.00</u>
Total	\$22,000.00

10. GRIMES PLANNING AREA WATER AND SEWER FACILITIES

General Plan Element - Water System

The existing water well and distribution system is owned and operated by the Grimes Public Utilities District, and services areas inside the district boundaries. The distribution system is characterized by a fairly well defined grid system of 4 inch, 6 inch and 8 inch mains. Water is supplied by two wells having a total capacity of 1700 gallons per minute, one of which has auxiliary power. Water is stored in a 5,000 gallon pressure tank. The water well and distribution system are relatively new and in excellent condition.

Long range plans for the system consist of completion of the grid system, which will provide more fire flow capacity to certain areas, and minor expansion into the area west of the existing populated community. The total expenditure estimated over the next 20 year period is \$32,000.

Specific Plan Element - Water System

Immediate Improvements

The only immediate improvement anticipated is the construction of a 6 inch waterline in Second Street for one half block north and south of Main Street. This will provide better fire protection in the commercial area adjacent to Main Street and the area north of Main Street. As stated above, the existing system is in excellent condition and no further improvements are necessary at this time. The estimated cost of this improvement is as follows:

Furnish & place 400 L.F. 6" waterline	\$3,000.00
Construction Contingencies	\$ 300.00
Engineering, Inspection, Legal Easements & Permits	<u>\$ 700.00</u>
Total	\$4,000.00

Proposed 10 year Improvements

During the 1 to 10 year period, further looping of the existing water system should be accomplished, specifically on Fourth Street in the Main Street vicinity, and in the Sixth Street area. This will have the general effect of providing more adequate fire flow capacity to the above mentioned areas as well as to the Elementary School located at Sixth and Leven Streets. A six inch line is shown along Leven Street from the west end of

the existing four inch line westerly to the Grimes-Arbuckle Road. This together with the Sixth Street line will provide a basis for servicing the area west of Sixth Street in the Poundstone Street area, which area is anticipated to have potential for residential expansion. The estimated cost of these improvements is as follows:

Furnish & place 2000 L.F. 6" waterline	\$13,000.00
Construction Contingencies	\$ 1,000.00
Engineering & Inspection	\$ 1,000.00
Legal, Easements & Permits	<u>\$ 1,000.00</u>
Total	\$16,000.00

Proposed 20 year Improvements

If the area west of Sixth Street develops as anticipated, it will be necessary to provide greater fire flow capacity around this area. This will be accomplished by looping a 6 inch water main along the Grimes-Arbuckle Road and easterly along Poundstone Street. These improvements constitute the extent of the anticipated Grimes water system during the study period. No change is necessary in the water well system. Estimated costs for the 20 year improvements are as follows:

Furnish & place 1500 L.F. 6" waterline	\$ 9,000.00
Construction Contingencies	\$ 1,000.00
Engineering & Inspection	\$ 1,000.00
Legal, Easements & Permits	<u>\$ 1,000.00</u>
Total	\$12,000.00

General Plan Element - Sewer System

Sewer service in the Grimes area is by private septic tank at this time. The soil in the area is classified as Sycamore Loam which has excellent surface and subsurface drainage characteristics. Discussions with residents of the Grimes area indicate that there are many old septic tanks which have given little or no difficulty to the owner over the years. In light of this, it is questionable if the cost of construction of a sewer system for this area is justified at this time, however for purposes of clarity the proposed basic sewer system for the Grimes community is shown on the map as being an immediate improvement.

Long range plans for this system consist of construction of basic sewage collection and treatment facilities, with subsequent additions as the population of the community increases. Total expenditures for these improvements over the next 20 year period will be \$164,000.

Specific Plan Element - Sewer System

Proposed Immediate Improvements

The proposed sewage collection system for the Grimes area is shown on the attached map. Generally speaking, when constructing a sewer system in an already developed area, it is desirable to locate the sewer lines in the alleys if such are available, since most septic tanks are located in the back yards. This, of course, facilitates connection to the sewage collection system. Due to the fact that the water distribution system is almost entirely located within alleys in this area, it is felt that utility crossings and grade problems involved in trying to install the sewers in the alleys would be unduly expensive. For this reason the sewage collection system is located inside the street rights of way. The system as proposed consists of a series of lateral and trunk lines ranging in size from 6 inches at the upstream ends to a 12 inch trunk carrying sewage to the proposed sewage treatment facility. The land in this area generally slopes to the north, however this slope is so slight that this was not the determining factor in the location of the sewage treatment facility. This facility should be located along the Sacramento River either north or south of Grimes to facilitate discharge of the plant effluent. A field review of the available sites favored the northern location. Additionally, should the facility be located to the south of the community there would be problems arising from necessary utility crossings of State Highway 45. The treatment facility as proposed will consist entirely of oxidation ponds with no mechanical treatment being used. The quantity of land proposed to be purchased will be adequate to service the Grimes area well beyond the study period. The estimated cost of this construction is as follows:

Furnish & place 4200 L.F. 6" sanitary sewer	\$ 29,500.00
Furnish & place 3650 L.F. 8" sanitary sewer	\$ 29,000.00
Furnish & place 1500 L.F. 12" sanitary sewer	\$ 17,000.00
Property acquisition treatment plant site - 10 acres @ \$700	\$ 7,000.00
Construct lift station & headworks	\$ 15,000.00
Construction of oxidation ponds	<u>\$ 12,000.00</u>
Sub Total	\$109,500.00

Construction Contingencies	\$ 11,000.00
Engineering & Inspection	\$ 12,000.00
Legal	\$ 3,000.00
Easements & Permits	\$ 3,000.00
Utility Relocation	<u>\$ 2,000.00</u>
Total	\$140,500.00

Proposed 10 year Improvements

Within the 1 to 10 year period, sewer service will probably expand to the west to service the State Highway 45 and Leven Street areas. The total estimated cost of these improvements is as follows:

Furnish & place 800 L.F. 6" sanitary sewer	\$ 6,000.00
Furnish & place 400 L.F. 8" sanitary sewer	<u>\$ 3,000.00</u>
Sub Total	\$ 9,000.00
Construction Contingencies	\$ 1,000.00
Engineering & Inspection	\$ 1,000.00
Legal, Easements & Permits	<u>\$ 1,000.00</u>
Total	\$12,000.00

Proposed 20 year Improvements

The final additions to the proposed sewer system, which can be foreseen, consist of providing 6 inch sewer service to the Poundstone Street area. The estimated cost of these improvements is as follows:

Furnish & place 1300 L.F. 6" sanitary sewer	\$ 9,000.00
Construction Contingencies	\$ 1,000.00
Engineering & Inspection	\$ 1,000.00
Legal, Easements & Permits	<u>\$ 1,000.00</u>
Total	\$12,000.00

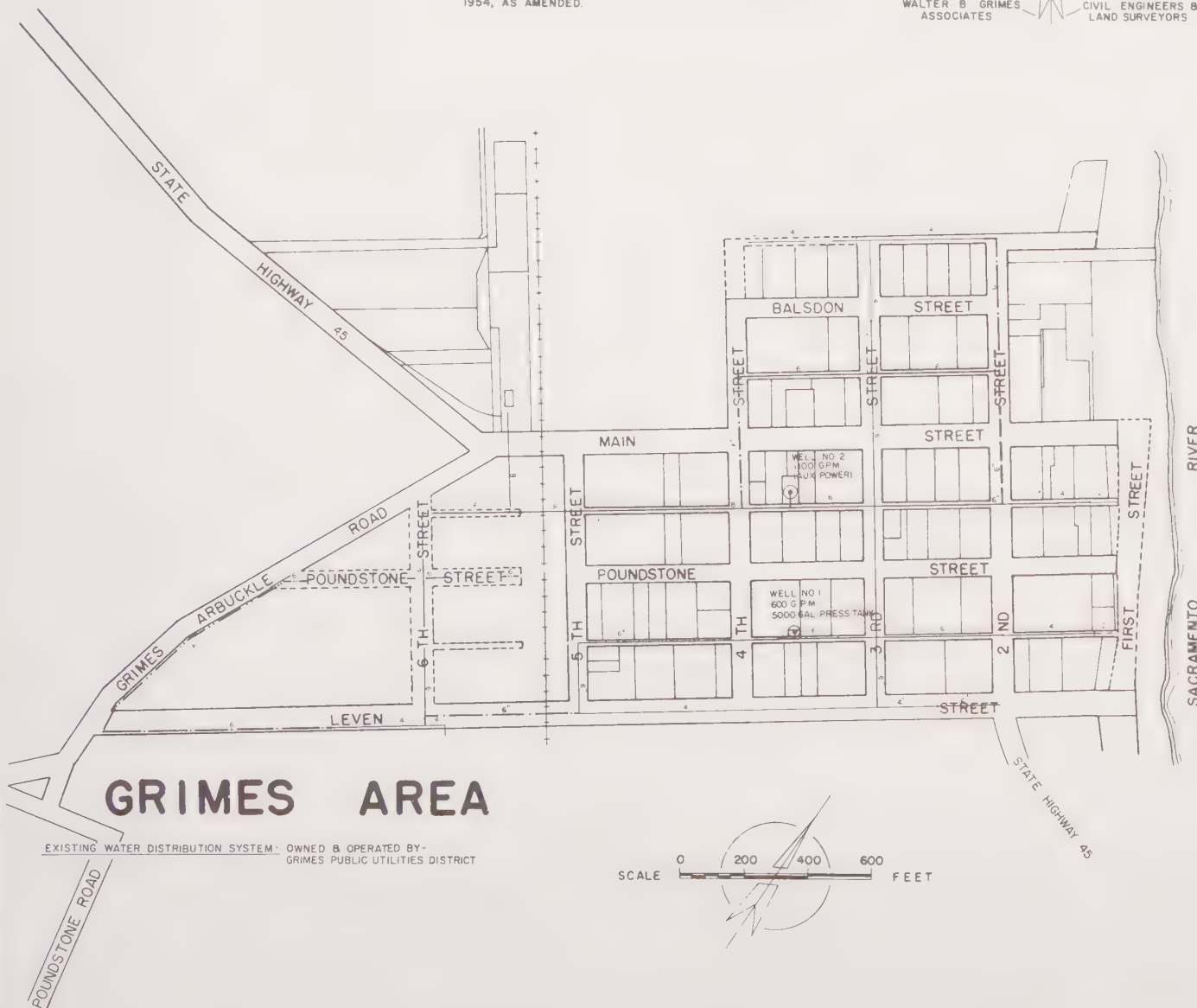
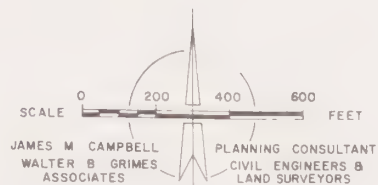
COLUSA COUNTY GENERAL PLAN

PUBLIC SERVICES AND FACILITIES ELEMENT

WATER SYSTEM FACILITIES

EXISTING	PROPOSED
2" DIA. PIPE	PROPOSED INSTALLATION IMMEDIATE
4" DIA. PIPE	" " 10 YEARS
6" & 8" DIA. PIPE	" " 20 YEARS
WELL	

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COLLEGE CITY AREA

EXISTING WATER SYSTEM: PRIVATELY OWNED INDIVIDUAL WELLS

COLUSA COUNTY GENERAL PLAN

PUBLIC SERVICES AND FACILITIES ELEMENT

SEWER SYSTEM FACILITIES

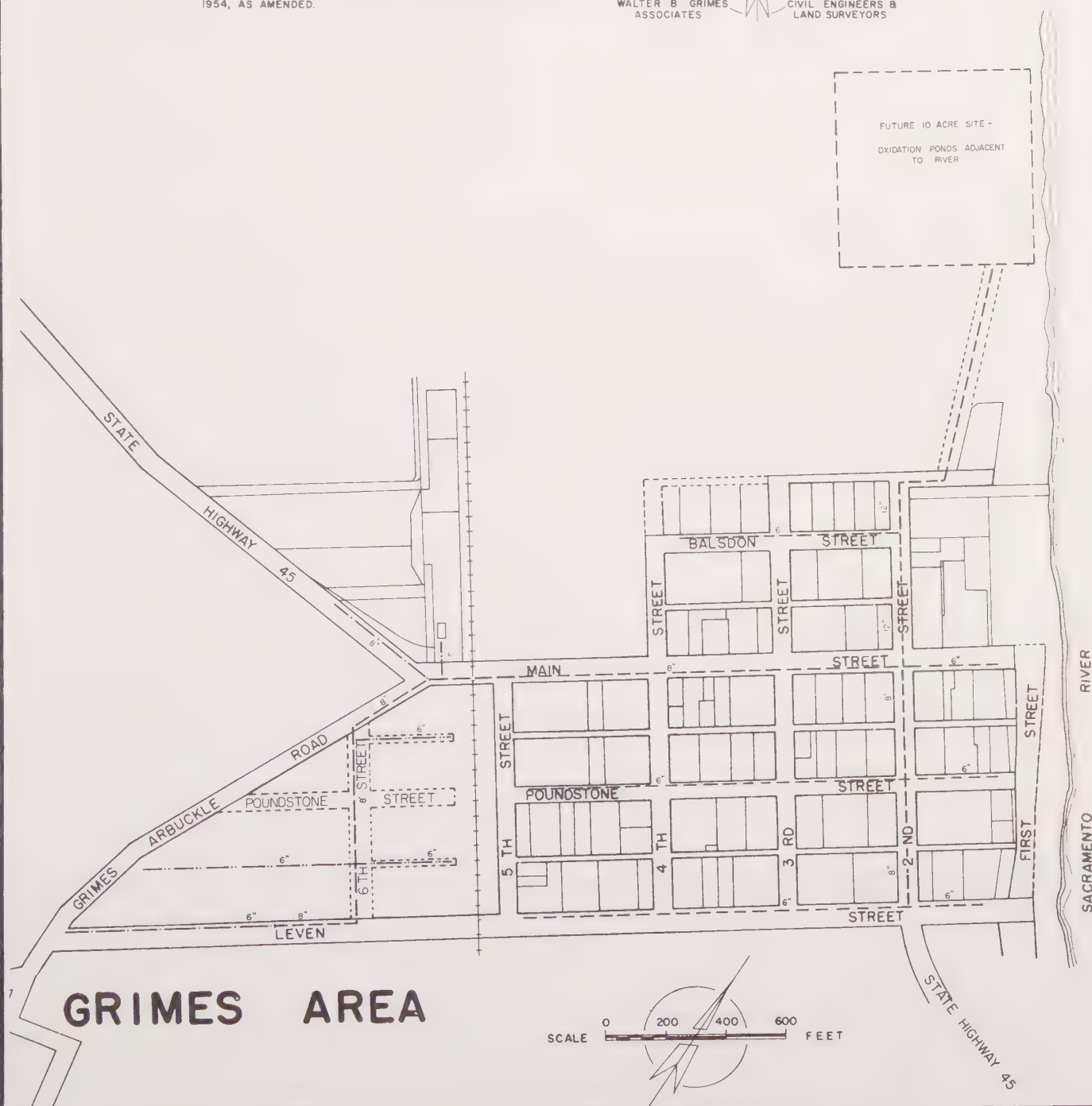
EXISTING

PROPOSED

----- PROPOSED INSTALLATION IMMEDIATE
 - - - - - " " 10 YEARS
 " " 20 YEARS

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SCALE 0 200 400 600 FEET
 JAMES M CAMPBELL PLANNING CONSULTANT
 WALTER B GRIMES CIVIL ENGINEERS &
 ASSOCIATES LAND SURVEYORS



11. PRINCETON PLANNING AREA WATER AND SEWER FACILITIES

General Plan Element - Water System

The water system is owned and operated by the Princeton Public Utilities District and services the area inside the district boundaries as shown on the map.

There are currently two wells with a total pumping capacity of 800 gallons per minute. One well is equipped with standby power for use in the event of electrical power failure. Water storage is in two 2,000 gallon pressure tanks. The water distribution system has varying line sizes, up to a maximum of 4 inches. The number and spacing of wharf hydrants will provide adequate fire protection, however the distribution line sizes will not allow adequate flows for fire protection.

Maintenance of the system has been fairly well confined to emergency repairs over the years with the result that major portions of the system will require replacement and upgrading in the future.

Long range plans for the system call for an extensive capital improvements program evenly distributed over the next 20 years. These improvements will consist of first establishing a main grid system which will provide adequate fire protection to the commercial district adjacent to State Highway 45, and to the two schools within the community. The grid system will then be further expanded to provide adequate fire protection throughout the district and to service the areas which will account for the future growth of the utilities district. The total projected cost of expansion and updating of the system over the next 20 years is \$146,000.

Specific Plan Element - Water System

Proposed Immediate Improvements

As previously noted, the most urgent requirement of this system is to establish the basic grid network to provide fire protection to the commercial district and the communities two schools. This will consist of eight inch mains along Commercial Street (State Highway 45) and along the Princeton-Norman Road.

There is presently a residential district lying westerly of the River-Branch Canal, along Center Street, which is sufficiently dense to justify water service. This area will presently be serviced with a six inch stub line running off the main system. Since the grid system is not immediately proposed to be completed, fire protection to this area will not be particularly good, however

will be on a par with the rest of the residential community. A breakdown of estimated costs of immediate improvements is as follows:

Furnish & place 2400 L.F. 6" waterline	\$14,000.00
Furnish & place 3100 L.F. 8" waterline	<u>\$22,000.00</u>
Sub Total	\$36,500.00
Construction Contingencies	\$ 3,500.00
Engineering & Inspection	\$ 4,000.00
Legal	\$ 2,000.00
Easements & Permits	<u>\$ 1,000.00</u>
Total	\$47,000.00

Proposed 10 year Improvements

During the 1 to 10 year time period the grid network of water mains will nearly be completed. Specifically, this will consist of mains installed in Prince, Center, State, Main and Summer Streets. In addition to providing adequate fire service throughout the existing community, this will have the effect of allowing abandonment of the existing two and four inch lines which will have outlived their useful lives.

It is anticipated that during this time period residential growth, in addition to increasing in density in the existing areas will began to take place along the Princeton-Norman Road. Since this area does not lend itself to looping of the water system beyond Argo Street, an eight inch stub line to the west is proposed. This will provide adequate service and fire protection. The estimated cost of improvements during this time period is:

Furnish & place 4300 L.F. 6" waterline	\$26,000.00
Furnish & place 1600 L.F. 8" waterline	<u>\$11,000.00</u>
Sub Total	\$37,000.00
Construction Contingencies	\$ 4,000.00
Engineering & Inspection	\$ 4,000.00
Legal	\$ 2,000.00

Easements & Permits	<u>\$ 1,000.00</u>
Total	\$48,000.00

Proposed 20 year Improvements

During the 10 to 20 year period, the remainder of the grid system should be installed. This will allow residential expansion within the existing populated community (east of the River Branch Canal).

As will be noted on the map, Princeton is contained on the east by the Sacramento River Levee and on the north, south and west by the River Branch Canal. Primarily due to existing road patterns and bridges, the prime area anticipated to expand residentially is that located west of the canal and lying between Spencer Road and the Princeton-Norman Road.

The majority of water system improvements during this period of time will consist of installing a major network along Argo and Spencer Roads and Center Road. The estimated costs of the above improvements are:

Furnish & place 1400 L.F. 6" waterline	\$ 8,500.00
Furnish & place 4400 L.F. 8" waterline	<u>\$31,000.00</u>
Sub Total	\$39,500.00
Construction Contingencies	\$ 4,000.00
Engineering & Inspection	\$ 4,500.00
Legal	\$ 2,000.00
Easements & Permits	<u>\$ 1,000.00</u>
Total	\$51,000.00

General Plan Element - Sewer System

The existing sanitary sewer collection and sewage treatment systems were installed by the Princeton Public Utilities District in 1967 under a federal grant and loan. All portions of the system are owned and operated by the Princeton Public Utilities District and service areas within the district boundary. Sewage is carried by way of lateral and trunk lines to an area southwest of Princeton where primary treatment takes place in a Lakeside Aeration Ditch. Secondary treatment of the effluent from the aeration ditch consists of detention in two oxidation ponds located adjacent to the aeration facility.

The sewage collection and treatment facilities are, with the exceptions noted below, adequate to service the area for the design period.

Long range plans for the system consist primarily of expansion of the existing collection system in order to service areas which are currently undeveloped, at a total cost of \$29,000.

Specific Plan Element - Sewer System

Proposed Immediate and 10 year Improvements

All portions of the collection and treatment system are, of course, in excellent condition, and as a result no major improvements are anticipated within 10 years.

The only current problem which exists is created by low water levels in the oxidation ponds, with the resultant unsightliness and odors. This situation is due primarily to the small number of users connected to the system. Secondly, the problem may be caused by leaching of the pond waters into the soil. Due to the type of soil which exists, it is probable that the pond bottoms will seal themselves, and leaching will cease to be a problem. Until such time as the number of sewer connections increases, it is recommended that makeup water be added to the ponds in order to maintain a satisfactory level.

Proposed 20 year Improvements

As previously noted, the existing sewage collection and treatment systems are basically adequate for present use and use through the study period.

As outlined in the water system element, the area most likely to exhibit growth is west of the River Branch Canal. A trunk sewer system is shown on the plan servicing this area, the total cost of which is:

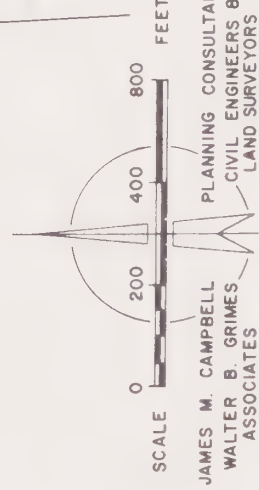
Furnish & place 2800 L.F. 6" sanitary sewer	\$20,000.00
Construction Contingencies	\$ 2,000.00
Engineering & Inspection	\$ 2,000.00
Legal	\$ 2,000.00
Easements & Permits	\$ 1,000.00
Utility Relocation	<u>\$ 2,000.00</u>
Total	\$29,000.00

COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT WATER SYSTEM FACILITIES

PRINCETON AREA

EXISTING
 — 2" DIA. PIPE
 - - 4" DIA. PIPE
 ○ WELL
 • FIRE HYDRANT
 ■ PRESSURE TANK

PROPOSED
 - - - - - IMMEDIATE
 - - - - - 10 YEARS
 - - - - - 20 YEARS



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WELL NO. 2
 400 GPM
 2000 GAL. PRESS. TANK
 (AUX. POWER)

PRINCETON PUBLIC UTILITY DISTRICT BOUNDARY

BRANCH

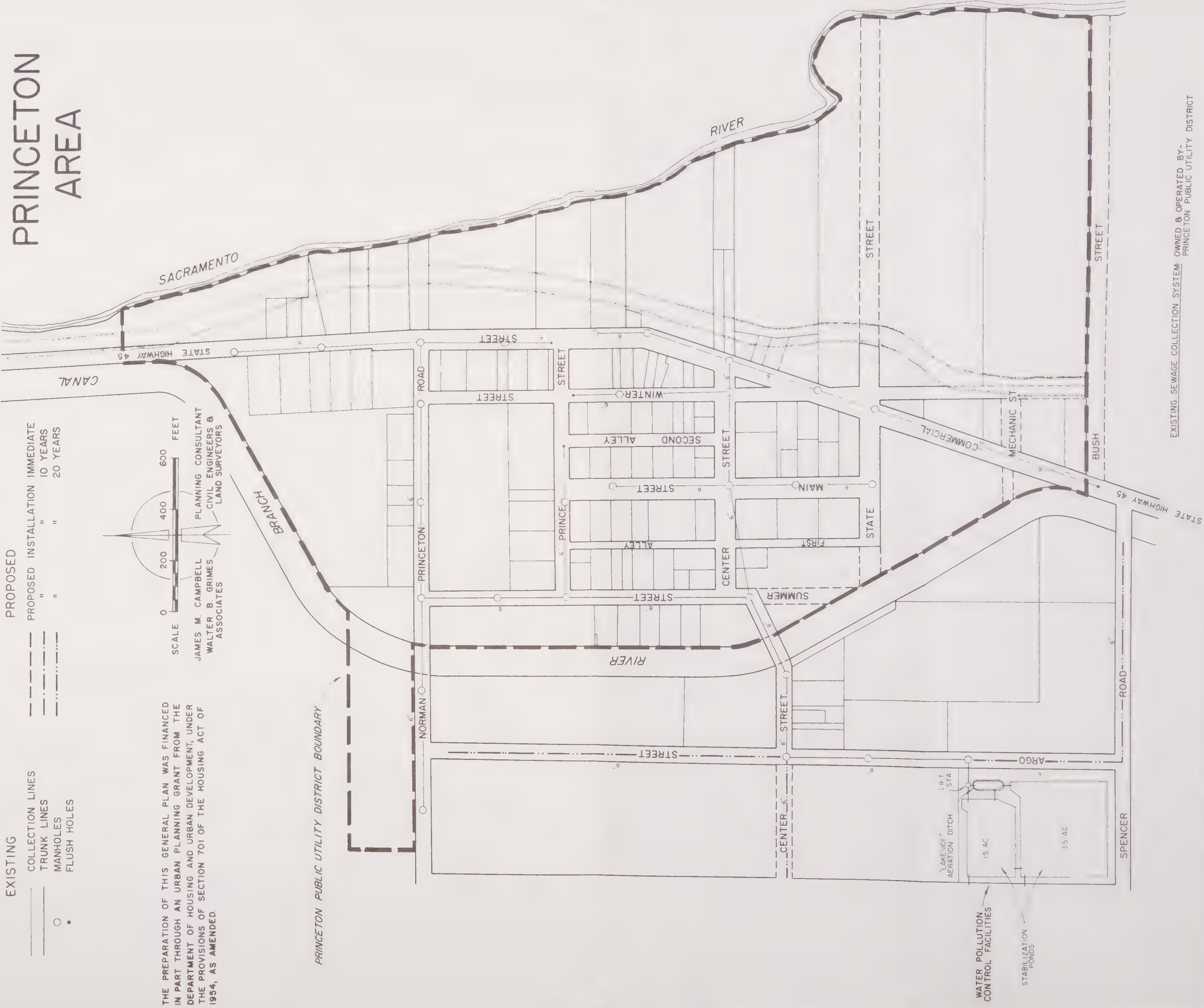
SACRAMENTO

RIVER

WELL NO. 1
 400 GPM
 2000 GAL. PRESS. TANK



COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT SEWER SYSTEM FACILITIES



12. MAXWELL PLANNING AREA WATER AND SEWER FACILITIES

General Plan Element - Water System

The water system is owned and operated by the Maxwell Public Utilities District, and with one exception, services areas within the district boundaries. There is a private line connected to the system which services the Maxwell Cemetery west of the community along an extension of Oak Street.

The system is comprised of two wells with one one hundred thousand gallon elevated storage tank and a distribution system with line sizes varying from 4 inches to 8 inches. The distribution system exhibits a fairly well defined grid system throughout the community, however in many areas the line sizes are too small to provide adequate protection. The existing wells have a total pumping capacity of seven hundred seventy five gallons per minute, which is not quite adequate for today's use.

As with many small utility districts, maintenance throughout the system has been on an emergency basis with no long range capital improvements, with the result that a rather substantial portion of the system will require upgrading in the near future.

Long range plans for the system consist of drilling one additional well at this time and one in the future, expanding the main water line grid layout to provide adequate fire protection throughout the existing community, provisions for service to areas adjacent to the proposed Interstate 5 Freeway, and provision of water service to presently unpopulated areas which will develop in the future. The total cost of anticipated capital improvements over the next twenty year period is \$289,000.

Specific Plan Element - Water System

Proposed Immediate Improvements

As previously noted, the water system is basically in its originally built condition with the result that rather extensive modifications and additions are required immediately. The existing storage tank is generally in good condition and adequate in size for the study period. It is proposed to immediately drill a new well provided with pumping and all related facilities. This well will be located as shown on the map in the west Oak Street area and will have a capacity of one thousand gallons per minute.

Modifications to the distribution system include six inch trunk lines in Elm, California, and North Streets together with

six inch main lines in Bismark and Cosner Avenues. These lines will provide adequate fire protection to the various residential areas throughout the community. The six inch main in Bismark, as shown on the map, is intended to service a residential district which is currently developing in that area.

As with several other west Sacramento Valley communities, it is expected that the imminent construction of Interstate 5 Freeway will have a marked affect on Maxwell. As shown on the map there will be a major interchange at the Freeway and Oak Street. It is anticipated that this interchange will promote commercial development in the area, which will require municipal facilities. Since the water line which is shown on the plan as serving the east side of the interchange does not lend itself well to looping, it is proposed to extend an 8 inch line into this area.

As shown on the plan there presently exists an 8 inch waterline in Oak Street between San Francisco Street and Railroad Avenue. Approximately ten years ago difficulty was experienced with this line in the form of numerous leaks. Due to lack of funds this water main was lined with concrete rather than replaced, and it was anticipated the maximum life of the concretelining would be five years. The lining is of such a thickness that it has cut the effective size of this line to approximately six inches. In order to maintain adequate pressures and circulation throughout the area east of Southern Pacific Railroad tracks this line must be replaced immediately. The estimated cost of the proposed immediate improvements follows:

Furnish & place 6150 L.F. 6" waterline	\$ 37,000.00
Furnish & place 3800 L.F. 8" waterline	\$ 27,000.00
Drill new well, provide pumping equipment and controls	<u>\$ 25,000.00</u>
Sub Total	\$ 89,000.00
Construction Contingencies	\$ 9,000.00
Engineering & Inspection	\$ 10,000.00
Legal	\$ 3,000.00
Easements & Permits	<u>\$ 2,000.00</u>
Total	\$113,000.00

Proposed 10 year Improvements

During the 1 to 10 year period, additional main lines should be constructed which will continue the earlier established pattern

of providing loops in the main grid system. These lines will, for the most part, be six inch in size due to the previously established pattern. It is anticipated that the most promising area for residential expansion will be in the area west of Maxwell which lays north of Oak Street. This will continue the pattern of development which presently exists. For this reason an 8 inch main line is shown to the west along Oak Street which may replace the existing four inch private main. Since a street pattern in this area has not yet been established, it is not possible to design the precise layout of minor distribution lines, however the main distribution lines shown will be adequate to service this area. It is probable that all costs of minor distribution lines will be borne by private developers rather than the utility district.

The existing wells, together with the well as proposed to be immediately drilled will adequately service the utility district area during this time period and also provide adequate fire protection and services to the area west of the district and north of Oak Street. The estimated costs of improvements for this time period are:

Furnish & place 4000 L.F. 6" waterline	\$24,000.00
Furnish & place 2300 L.F. 8" waterline	<u>\$16,000.00</u>
Sub Total	\$40,000.00
Construction Contingencies	\$ 4,000.00
Engineering & Inspection	\$ 4,000.00
Legal	\$ 2,000.00
Easements & Permits	<u>\$ 2,000.00</u>
Total	\$52,000.00

Proposed 20 year Improvements

During the time period between 10 and 20 years, improvements to the water system will take the form of additions to the grid system in San Francisco and Olive Streets west of the railroad tracks, and expansion of the southern Railroad Avenue, Cosner Avenue and East Avenue area, on the east side of the Southern Pacific Railroad tracks. As this area to the east of the tracks develops it will be necessary to provide another well in order that adequate fire protection and water service may be provided to this area. Although not shown specifically on the plans it is possible that there may be further minor development requiring service east of the Interstate 5 Freeway. The estimated cost of

installing these improvements is:

Furnish & place 12,100 L.F. 6" waterline	\$ 73,000.00
Drill new well, provide pumping equipment and controls	<u>\$ 25,000.00</u>
Sub Total	\$ 98,000.00
Construction Contingencies	\$ 10,000.00
Engineering & Inspection	\$ 11,000.00
Legal	\$ 3,000.00
Easements & Permits	<u>\$ 2,000.00</u>
Total	\$124,000.00

General Plan Element - Sewer System

The existing sanitary sewer collection and treatment systems are owned and operated by the Maxwell Public Utilities District and were constructed in 1939.

The collection system consists for the most part of concrete sewer lines which, due to the topography of the area, are laid to a very flat grade. These lines have suffered from hydrogen sulfide attack with the result that many of the lines are in an advanced state of decay. Since the initial construction of the system, there have been few capital improvements and maintenance has often taken the form of line patching with such materials as wood or tin. This was, of course, due to lack of funds, however the result is a system which in very few years will require major reconstruction.

The sewage treatment facility consists of an Imhoff Tank located south and east of the community, which discharges its effluent directly into a ditch running to the south into another small stream. This treatment facility has also suffered from lack of maintenance and is totally inadequate to treat today's flow of sewage. As shown on the plan, there is a 12 inch trunk sewer running from the sewage treatment plant north and west to the intersection of Central and Cosner Avenues. This line is quite new and consists of vitrified clay pipe which will be adequate for the design period.

Long range plans indicate replacement of the sewage treatment facility, replacement of the majority of the existing collection system, and expansion of the system to service areas currently lying outside the district boundaries. Due to the present condition

of the existing collection system, it will become necessary to establish a program of capital improvements for this replacement. There are currently approximately four miles of sewer lines which are not shown on the map as being replaced. If it is assumed that the total life expectancy of these lines is 20 years, it will be necessary to budget \$8000 annually for these capital improvements. In addition to this amount, proposed expenditures over the 20 year period total \$233,000.

Specific Plan Element - Sewer System

Proposed Immediate Improvements

As previously noted, portions of the existing system are in a state of decay due to hydrogen sulfide attack. In order that the map will be as legible as possible the only lines shown as being immediately replaced are those known to be in danger of immediate failure. The eventual replacement of virtually the entire system must be emphasized, however, the existing 8 inch line in Cosner Avenue south of Oak Street as shown on the plans, is in extremely poor condition and should be replaced. The other main trunk line connecting to the outfall sewer which lies in Sycamore Street and Central Avenue between the alley east of Pacific Street and Cosner Avenue also is substandard and has been a source of constant maintenance problems.

The only other major modification to the collection system which is proposed at this time consists of providing service by way of an 8 inch sewer line to the east side of the proposed Interstate 5 Freeway. The sewage treatment facility is inadequate for today's flows and is anticipated to be replaced. The upcoming Interstate 5 Freeway construction will pass very close to the west of the existing Imoff tank, as evidenced by the fact that the freeway right of way was narrowed at this point in order that it would not pass through the treatment facility. Additionally, the 12 inch outfall line which will cross the Interstate 5 Freeway on an easterly extension of South Avenue will be very difficult to maintain in the future due to the presence of the freeway. For these reasons, the future sewage treatment facilities should be constructed on the westerly side of the new freeway at a point approximately west of the existing facility. The proposed sewage treatment facility will consist at this time of oxidation ponds. These will provide adequate sewage treatment which will be odor free, and will require very nearly no maintenance. As shown on the plan, it is proposed to purchase 10 acres of land for the sewage treatment facility which will be adequate in size for the design period. The estimated costs of the construction for the improvements to be immediately constructed are:

Purchase land for sewage treatment facility	\$ 12,000.00
Construct headworks lift station & sewage treatment lagoons	\$ 45,000.00
Furnish & place 1200 L.F. 12" outfall sewer	\$ 13,000.00
Furnish & place 2800 L.F. 8" sanitary sewer	<u>\$ 22,000.00</u>
Sub Total	\$ 92,000.00
Construction Contingencies	\$ 9,000.00
Engineering & Inspection	\$ 11,000.00
Legal	\$ 5,000.00
Easements & Permits	\$ 4,000.00
Utility Relocation	<u>\$ 4,000.00</u>
Total	\$125,000.00

Proposed 10 year Improvements

The collection system improvements which are proposed to be made within the 1 to 10 year period consist of providing better service to the Railroad Avenue industrial section between Central Avenue and Oak Street, and providing sewer service to the northwest section of the community. Due to the fact that the street layout for this northwest section is not known, the only line shown is an extension west on Oak Street. This line will be adequate to service the anticipated area. While these improvements are not extensive, it must be again brought to mind that during this period very probably other major capital improvements will have to be made as existing lines within the system continue to fail or create major maintenance problems. The proposed sewage treatment facility will be adequate during this time period. The estimated cost of 10 year improvements is:

Furnish & place 1800 L.F. 6" sanitary sewer	\$13,000.00
Construction Contingencies	\$ 2,000.00
Engineering & Inspection	<u>\$ 2,000.00</u>
Total	\$17,000.00

Proposed 20 year Improvements

The major improvements anticipated during the 10 to 20 year period consist of expansion of the collection system to service the Railroad Avenue, Cosner Avenue and East Avenue areas. Replacement of the substandard portions of the existing collection system will continue during this period.

While it is doubtful that there will be major population expansion in the community during the 10 to 20 year period, and the sewage treatment facility which is proposed to be constructed will adequately serve the community for the next 20 years it is possible that at some date beyond this, expansion of the treatment plant will be necessary. This expansion will take the form of installation of primary treatment lagoons which will be aerated, thereby taking some of the load off the oxidation ponds. The estimated cost of improvements to be constructed within the 10 to 20 year period is:

Furnish & place 3900 L.F. 6" sanitary sewer	\$27,000.00
Furnish & place 700 L.F. 8" sanitary sewer	\$ 6,000.00
Construct aerated lagoon together with related piping and equipment	<u>\$35,000.00</u>
Sub Total	\$68,000.00
Construction Contingencies	\$ 7,000.00
Engineering & Inspection	\$ 8,000.00
Legal	\$ 3,000.00
Easements & Permits	\$ 2,000.00
Utility Relocation	<u>\$ 3,000.00</u>
Total	\$91,000.00

COLUSA COUNTY GENERAL PLAN

PUBLIC SERVICES AND FACILITIES ELEMENT

WATER SYSTEM FACILITIES

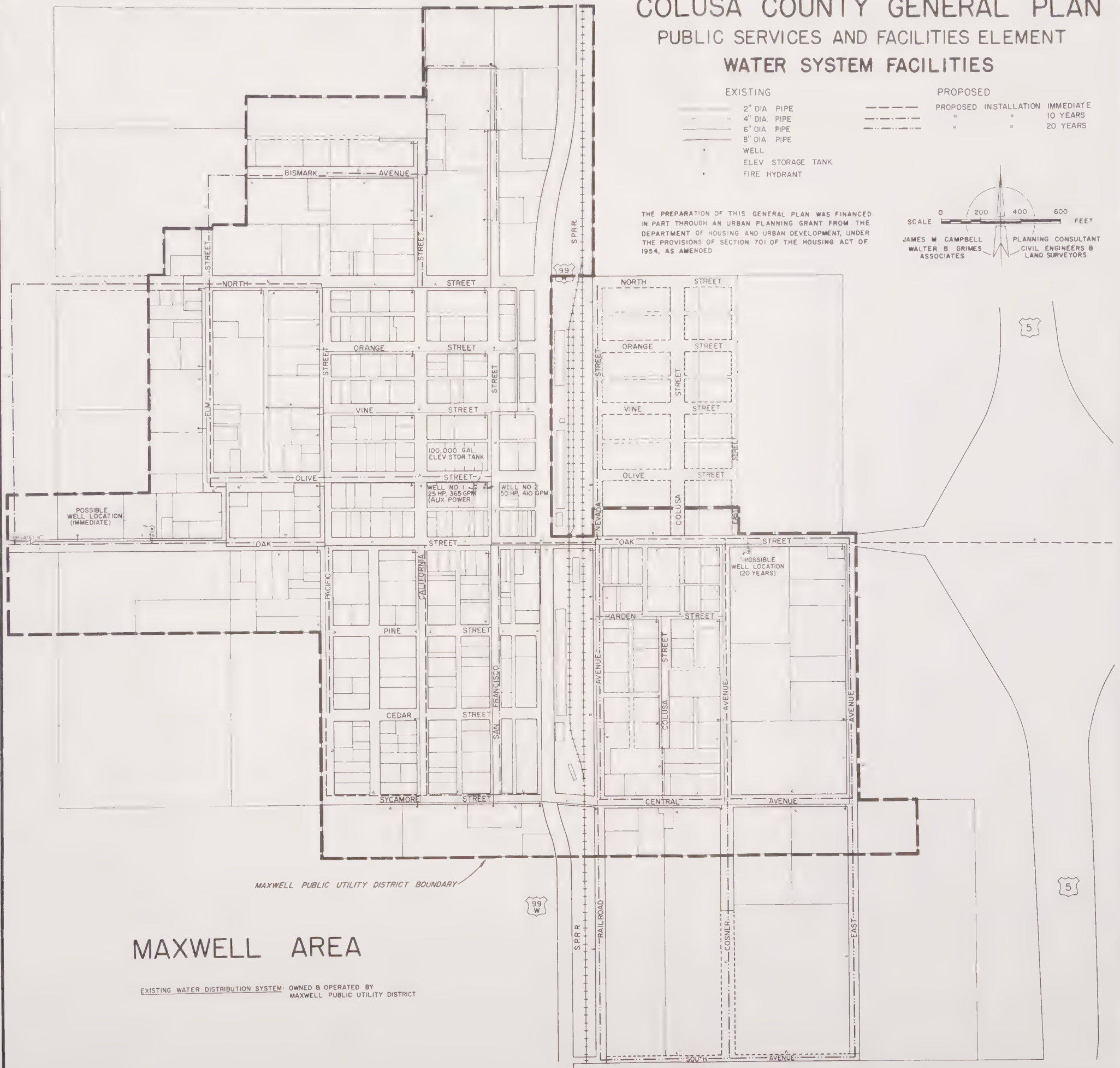
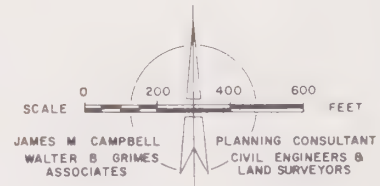
EXISTING

- 2" DIA PIPE
- 4" DIA PIPE
- 6" DIA PIPE
- 8" DIA PIPE
- WELL
- ELEV STORAGE TANK
- FIRE HYDRANT

PROPOSED

- PROPOSED INSTALLATION IMMEDIATE
- " " 10 YEARS
- " " 20 YEARS

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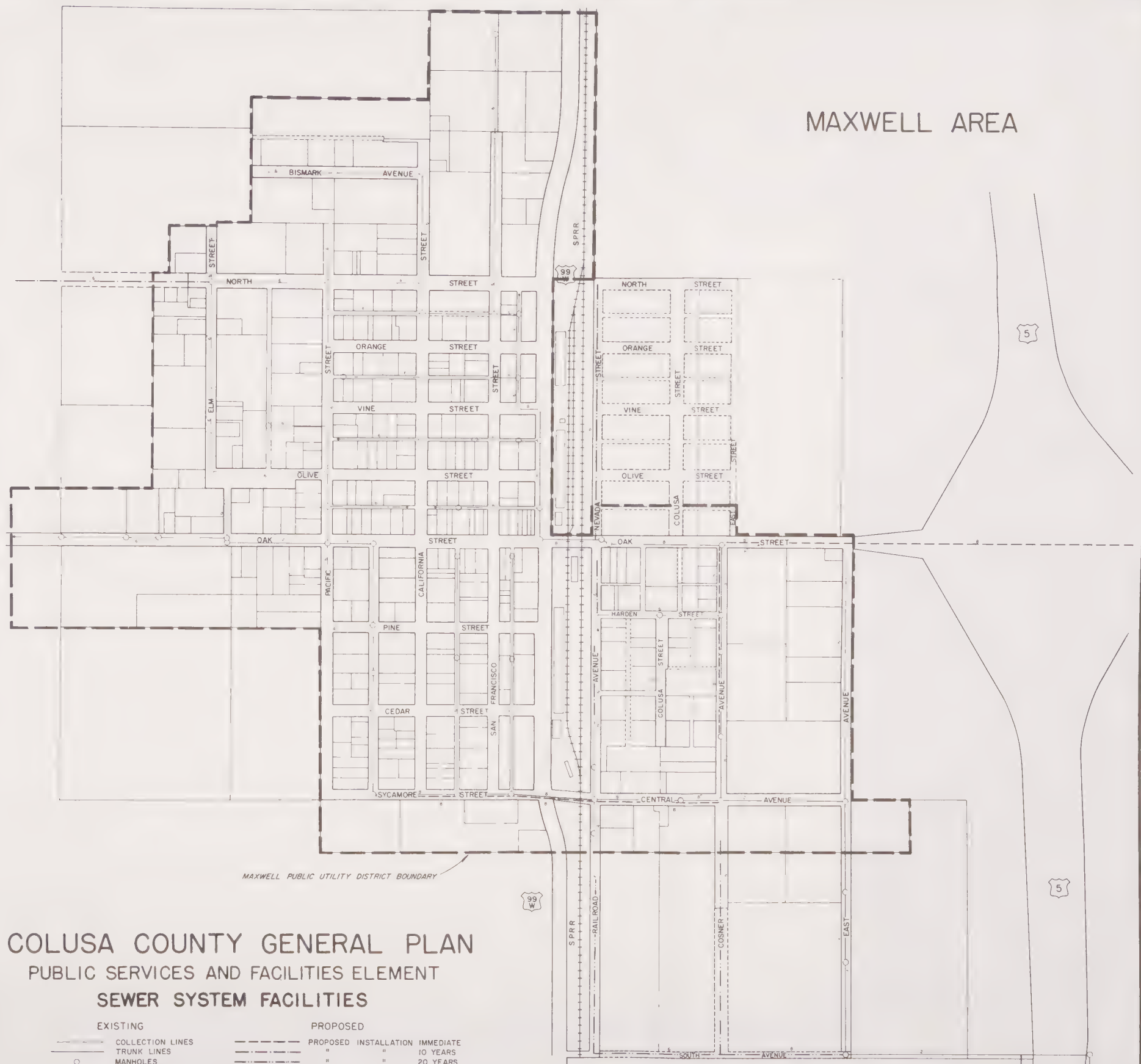


MAXWELL PUBLIC UTILITY DISTRICT BOUNDARY

MAXWELL AREA

EXISTING WATER DISTRIBUTION SYSTEM OWNED & OPERATED BY
MAXWELL PUBLIC UTILITY DISTRICT

MAXWELL AREA

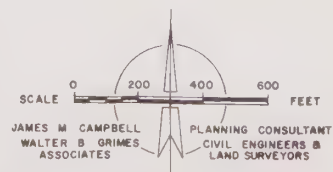


COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT SEWER SYSTEM FACILITIES

EXISTING	PROPOSED
— COLLECTION LINES	— PROPOSED INSTALLATION IMMEDIATE
○ TRUNK LINES	— " " 10 YEARS
• MANHOLES	— " " 20 YEARS
• FLUSH HOLES	

EXISTING SEWAGE COLLECTION SYSTEM OWNED & OPERATED BY
MAXWELL PUBLIC UTILITY DISTRICT

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1954, AS AMENDED.



FUTURE WATER POLLUTION
CONTROL FACILITY
(IMMEDIATE)

WATER POLLUTION
CONTROL
FACILITIES
IMHOFF TANK

13. LODOGA TOWNSITE AREA SEWER AND WATER FACILITIES

General Plan Element - Sewer and Water Systems

Lodoga Townsite is an isolated community located near the southern tip of the East Park Reservoir in Western Colusa County.

The townsite proper currently houses between ten and twenty five permanent residents with some additional housing available for tourists. Until 1967 there was an active grammar school which served the surrounding areas and had a peak student population of approximately 20. Due to the fact that the small population of this community is remaining stable, or possibly declining, there are no long range plans for public sewer or water facilities at this location, except as noted below.

Due to the proposed size and nature of the Century Ranch complex, it is probable that the Lodoga Townsite area will, at some time in the future, be absorbed. Should this come to pass, both sewer and water facilities would be provided by the developers. Since it is highly unlikely that the present townsite would remain in its present shape, it is not feasible to lay out specific line locations and sizes at this time. As noted hereafter, the design and construction of the sewer and water facilities within the Century Ranch area is being accomplished entirely at the expense of the Developer, under the general guidance of Colusa County personnel.

In summary, should Lodoga be absorbed by Century Ranch, sewer and water facilities would be provided. If this does not come to pass, it is felt that these facilities could not be economically justified.

14. STONYFORD PLANNING AREA WATER AND SEWER FACILITIES

General Plan Element - Water System

Water service to the Stonyford area is currently provided by private wells, however plans have been developed for the construction of a water system with construction scheduled to begin in early 1970. For this reason the water system improvements shown on the plan are immediate.

Due to the type of soil which exists in this area, and the small size of many of the existing lots, the immediate construction of a community water system is of prime importance. This system will have an important public health aspect in that it will provide a source of pure water to each dwelling which will not be subject to pollution by private septic tanks.

Long range plans for the Stonyford water system consist of the immediate construction noted above with no expansion of the system over the 20 year study period. The total expenditure anticipated over this period of time is \$91,400.

Specific Plan Element- Water System

Immediate Improvements

The water system which is anticipated to be constructed consists of a single well located north of Stony Creek, with a single 5000 gallon pressure tank at the same location. Water will be distributed to the central portion of the community by way of a 6 inch main line with branch lines ranging in size down to 3 inches. The water system will be expanded southerly to service present residential areas and will consist of 3 inch service lines. Economic considerations dictate that the system to be constructed will be basically a domestic water system, with adequate fire protection being provided within the central portion of the community. Fire protection to the outlying areas will necessarily be marginal, however the domestic service will be adequate. The estimated cost of these improvements is as follows:

Furnish & place 4400 L.F. 6" waterline	\$22,000.00
Furnish & place 2900 L.F. 4" waterline	\$ 8,700.00
Furnish & place 3600 L.F. 3" waterline	\$ 7,200.00
Furnish & place water services, connection valves, meters, and hydrants	\$ 9,830.00

Provide well, pressure tank and related equipment	<u>\$19,500.00</u>
Sub Total	\$67,230.00
Construction Contingencies	\$ 6,770.00
Engineering & Inspection	\$11,200.00
Legal	\$ 1,700.00
Interest	\$ 1,000.00
Rights of Way	<u>\$ 3,500.00</u>
Total	\$91,400.00

Proposed 10 and 20 year Improvements

Historically Stonyford has served as a trading area for the northwestern portion of Colusa County, and services ranchers and the Forest Service facility located in the area. Growth in the community over the last several years has been very slow, and there is little reason to believe that this will change. Factors which will have a marked effect on the future growth of Stonyford are the Century Ranch to the south and the Glenn Reservoir complex to the north in Glenn County. Particularily important will be the Century Ranch development to the south which is discussed in detail in this report.

The water facilities which are proposed to be constructed will be adequate to service the existing Stonyford area over the 20 year study period.

General Plan Element - Sewer System

The Stonyford area is currently serviced by private septic tanks at each residence and business. The soil throughout the area as outlined in the University of California College of Agriculture Publication, "Soils of Colusa County, California," consists of Cortina Gravel, and Sandy Loam. This soil type exhibits excellent surface drainage and good subsurface drainage characteristics. For this reason, septic tanks with proper leach fields operate satisfactorily with a minimum of maintenance. As noted in the water element of this report, growth potential for the area is not great. This factor, combined with the upcoming water system construction project will very likely make the installation of a community sewer service within the design period economically unfeasable. The economic considerations together with the questionable benefits to be derived (existing satisfactory septic tank service) indicate that a sewer system within the design period need not be constructed.

15. CENTURY RANCH PLANNING AREA WATER AND SEWER FACILITIES

General Plan Element - Water System

While not specifically outlined in the contract for the preparation of this report, the Century Ranch area will have a great impact on the western portion of Colusa County. The Century Ranch area generally lies between Lodoga and Stonyford, and is adjacent to the East Park Reservoir. Should development take place on all of the area for which tentative maps have been submitted, the Century Ranch will be the largest community in Colusa County. For this reason, it deserves special mention in this report. The general and specific planning for this area is being accomplished entirely by a private developer, with overall approval being at the discretion of the County of Colusa. For this reason, specific recommendations in this report will not be made, and comments will be confined to planning data currently available.

The Century Ranch area will consist of single and multiple family residential areas, rural estates, mobile home courts, camp ground areas, commercial developments as well as business, light industrial, manufacturing, airport facilities, school developments and recreational facilities. As shown on the attached map the water system has been installed to the areas currently under development and consists of water mains of various sizes being fed by several galleries located in the Little Stony Creek area, together with wells. This is a properly engineered system and has been installed in accordance with good engineering and construction practices.

Long range plans for the water system call for expansion into the areas shown on the map as land development takes place.

Specific Plan Element - Water System

Development within the Century Ranch area is taking place on a demand basis, and as such it would be impractical to stipulate between immediate, ten and twenty year improvements which are proposed. The developer does, however, maintain an aggressive sales program and many parcels have been sold. As can be seen on the attached map major expansion of the water system is anticipated. The entire area will be serviced by interconnected water mains of sizes adequate to provide excellent fire protection throughout the area. Water storage is in a single 250,000 gallon water reservoir located at an elevation such that adequate pressures and flows will be maintained throughout the area. Since all expenditures will be made by private developers and the County will not participate in the construction of these improvements, cost estimates for future expansion of this system were not

developed. As the plan shows, and as earlier noted in this report, its conceivable that the Lodoga area will in the future, be absorbed by the Century Ranch area and will as a result be provided water service through the system described.

General Plan Element - Sewer System

At present the entire Century Ranch area is being served by private septic tanks. There is, as yet, not a great deal of residential development and of course the demand for a sewer system has not yet reached its peak. Many of the present property owners have purchased this land for the purpose of construction of retirement or vacation type homes, which normally takes place over a period of years. As development within the area continues, it will be necessary to construct a sanitary sewer system. For the present, however, the soil throughout the area is one which yields good subsurface drainage and septic tanks which are being constructed may be expected to give a number of years of trouble free service.

Long range plans consist of construction of a complete collection system consisting of adequate size lateral and trunk lines which will terminate at a sewage treatment facility located near Little Stony Creek.

Specific Plan Element - Sewer System

As with the water system, the sewer system will be constructed entirely at developers cost and as property sales in the area warrant such construction. As noted earlier, the sewer system will consist of lateral and trunk lines terminating near Little Stony Creek.

WATER SYSTEM FACILITIES

EXISTING
 WATER LINES
 WELL
 FILTRATION GALLERY

PROPOSED
 PROPOSED INSTALLATION IMMEDIATE

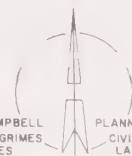
COLUSA COUNTY GENERAL PLAN PUBLIC SERVICES AND FACILITIES ELEMENT

CENTURY RANCH LODOGA STONYFORD

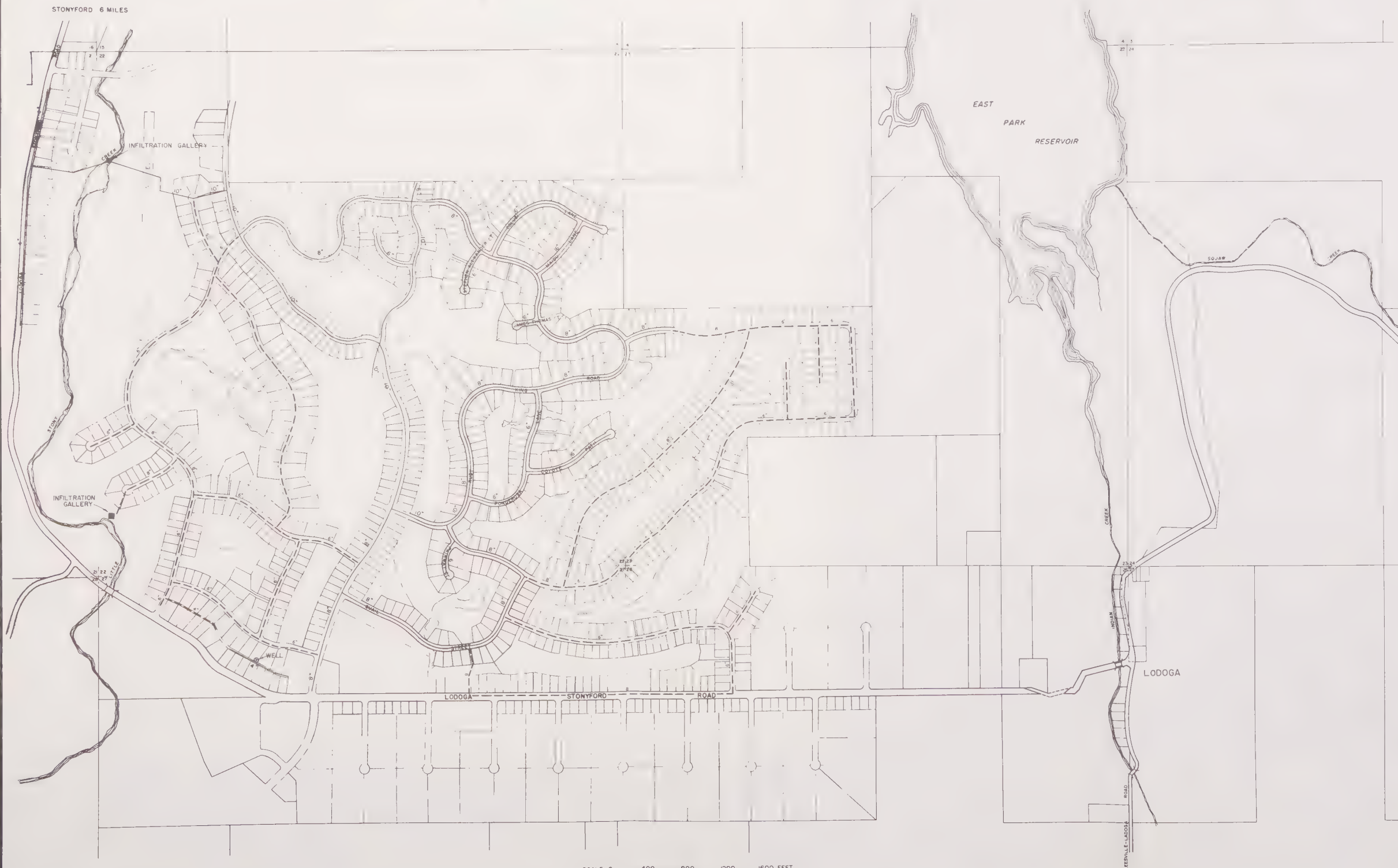
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JAMES M CAMPBELL
 WALTER B GRIMES
 ASSOCIATES

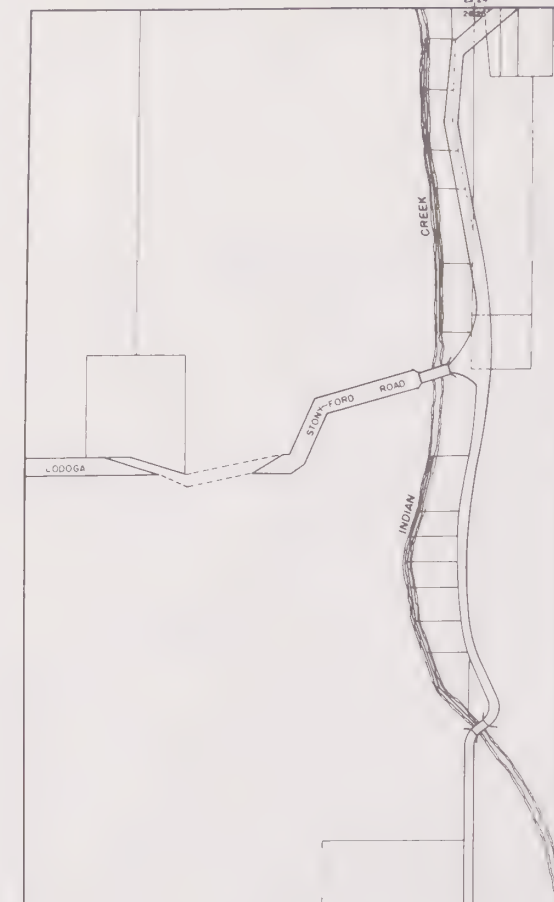
PLANNING CONSULTANT
 CIVIL ENGINEERS &
 LAND SURVEYORS



STONYFORD 6 MILES

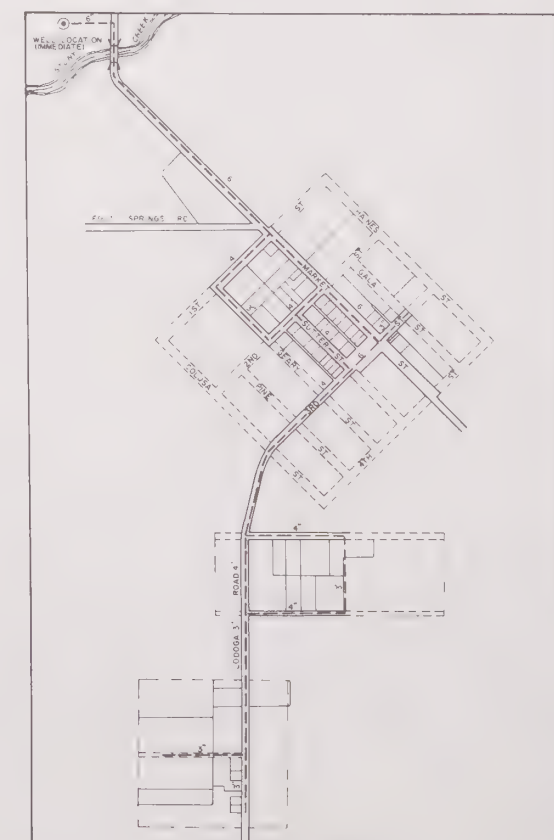


SCALE 0 400 800 1200 1600 FEET



LODOGA TOWNSITE

SCALE 0 200 400 600 800 FEET



STONYFORD TOWNSITE

SCALE 0 600 1200 1800 2400 FEET

U.C. BERKELEY LIBRARIES



C124888288

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1000
1000
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